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Goal Orientations and Self-Efficacy Interactions on Self-Set Goal Level

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GOAL ORIENTATIONS AND SELF-EFFICACY INTERACTIONS ON SELF-SET GOAL LEVEL

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ABSTRACT

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The current study examined the interactive effects of goal orientations (the tendencies of an individual to set specific types of goals, i.e., learning or performance goals), and self-efficacy (an evaluation of one's own competence on a task) on self-set goal levels and performance in an academic context. Past research has found that learning goal orientation and self-efficacy are both positively related to the difficulty of self-selected goals and to performance whereas avoid-performance goal orientation is negatively associated with both the difficulty of self-set goals and performance. The current study found that learning goal orientation and self-efficacy were positively related to academic performance in the context of low avoid-performance goal orientation. Further, the study provides evidence of conceptual overlap between the concepts of learning goal orientation and self-efficacy and has practical implications for the implementation of motivation-focused training programs.

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Prior research has shown that goal setting, goal orientation, and self-efficacy affect performance. Goals direct a person's attention, influence how much effort a person puts into a task, and affect how much a person persists in completing a task (Locke & Latham, 1990; 2002). In particular, the difficulty of the goals people set has an influence on how people perform in pursuing that goal. Further, in achievement situations, people have tendencies called goal orientations to set certain types of goals, such as learning or performance goals (Dweck, 1986). Goal orientations have both trait-like and state-like aspects (e.g., Ames & Archer, 1988; Stevens & Gist, 1997), and researchers have identified three dimensions of goal orientations, i.e., learning goal orientation, prove-performance goal orientation, and avoid-performance goal orientation (VandeWalle, 1997). Research demonstrated that the goal orientations of a person can influence the level or difficulty of the goals that person sets (VandeWalle, Brown, Cron, & Slocum, 1999), and it might be that a person's confidence in his or her own ability to pursue that goal, that person's self-efficacy, has an effect on this relationship. Bandura (1977; 1986) conceptualized both a generalized self-efficacy, which reflects an individual's belief about his or her own capabilities across situations, as well as a task-specific self-efficacy, which is malleable and changes as an individual performs a task. Further, researchers have found self-efficacy to be positively related to self-set goal level (e.g., Zimmerman, Bandura, & Martinez-Pons, 1992) and performance (e.g., Judge, Jackson, Shaw, Scott, & Rich, 2007; Stajkovic & Luthans, 1998). In the current research, I will examine how current conceptualizations of goal orientations and self-efficacy interact to influence self-set goals and performance.

Goal Setting

One of the most prominent theories of goal setting is Locke and Latham's Goal Setting Theory (1968). Locke and Latham regarded goals as immediate regulators of human action, and prior research has shown that more difficult, specific goals lead to more effort and better performance (Locke & Latham, 1990). Moreover, there are a variety of goal-related concepts identified by Locke and Latham that explain why people perform better or worse on a task depending on their goal setting behaviors. Locke and Latham organized these concepts into two broad categories: goal content and goal intensity.

Goal content refers to the specific contents of the outcomes that an individual seeks, such as getting good grades or completing a work-related task. This also includes goal level, i.e., how difficult the goal is, and goal specificity, i.e., how clear the goal is. Goal level is a separate concept from task difficulty. A goal could focus on the completion of a single task, but also it could focus on the completion of multiple related tasks with varying difficulties. As well, goals of differing difficulty could be set for a specific task, which would not affect the task difficulty. Goal level or goal difficulty directs a person's attention, influences how much effort a person puts into a task, and affects how much a person persists in completing a task. Locke explained the relationship between goal difficulty and performance as a result of more difficult goals leading to more effort being given and more persistence on the part of the individual in comparison to easier goals that do not require such effort.

Difficult, specific goals lead to increased performance, compared to easy goals or goals that simply ask the individual to "do his or her best." This leads me to discuss goal

specificity. Goal specificity refers to the extent to which the goal is specific (e.g., getting a score of 95% on a test) versus non-specific (e.g., doing well on the test). "Do your best" goals lead to a more positive self-evaluation of performance and are effective when individuals are beginning to learn new, complex tasks. Indeed, when tasks are complex and novel, individuals might benefit more from non-specific goals and the opportunity to engage in strategy development, an indirect mechanism through which goals influence performance (Locke & Latham, 1990). However, difficult, specific goals are more effective in enhancing performance when tasks are simple or well-learned.

Goal intensity encompasses the importance of the goal to the individual and an individual's commitment to the goal. Goals regulate the intensity of effort an individual puts into a task and thus affect an individual's arousal or intensity and motivation to attain a goal. Goals affect one's choice or direction in that they direct attention to actions that are relevant to the task and direct attention away from actions that are task- or goal-irrelevant. For example, when given feedback, individuals pursuing self-set goals will improve in areas of the task that are related to their goals but not in areas irrelevant to the task (Locke & Latham, 2002). Further, goals affect duration of effort, i.e., persistence. When given choice in the amount of time spent on a task, goals encourage more time spent.

Another distinction in goal-setting is whether goals are self-set or assigned to a person by someone else. Goal choice plays a role in a person's commitment to that goal. If a person self-sets a goal, then that person is likely to be more highly committed to that goal and to set a more difficult goal (Locke & Latham, 1990; Locke, Latham, & Erez, 1988). If a person is assigned a goal, he or she might not be very committed to that goal,

and this could have implications for performance. Difficult goals to which the person is committed are likely to have beneficial effects on performance. In the current study, I am examining factors that might influence self-set goal levels, such as goal orientations.

Goal Orientation

Goal orientation refers to people's tendencies to set certain types of goals in achievement situations. Early conceptualizations of goal orientation originated with researchers such as Dweck (1975; 1986) and Nicholls (1975; 1976; 1978; 1984). Researchers were interested initially in why individuals with the same ability would act differently given the same situation. They found that people would set different types of goals in these achievement situations, i.e., learning or performance goals. Each stream of research originated from different influences but described a similar goal orientation concept. One main difference between Dweck's research and Nicholls's is whether the concept was defined as a trait or a state.

Goal orientation has both trait-like and state-like aspects. Individuals have basic tendencies to set either learning or performance goals, but environmental factors could have an influence on the types of goals set (Button, Mathieu, & Zajac, 1996). When situational factors are ambiguous, trait-like goal orientations are more likely to be followed.

Goal Orientation as a Trait

Dweck's (1986) research on goal orientation as a trait and unidimensional construct was one early, pivotal stream of research in the conceptual development of goal orientation. Dweck (1986) proposed that individuals have a disposition, a goal orientation, to either demonstrate or develop their own ability in achievement situations.

Originally, Dweck investigated why children might react differently in response to challenging situations regardless of their ability. Whereas some children would seek challenges, others of similar ability would avoid challenges and difficulties. Specifically, Dweck identified two types of goals that result from achievement motivation: learning goals and performance goals. A person with a learning goal intends to increase his or her mastery or understanding whereas a person with a performance goal desires praise and positive judgments of ability for his or her performance and wants to avoid negative judgments.

Goal Orientation as a State

Another pivotal stream of research is that of Nicholls (1975; 1976; 1978), who conceptualized goal orientation as state-like. Nicholls studied a concept similar to Dweck's (1986) idea of goal orientation. Nicholls referred to this concept as achievement goals and defined these goals as states that could change depending on the context of the situation. Nicholls (1984) posited that different conceptions of ability affect how people evaluate their own ability and subsequently how they attempt to demonstrate it. Nicholls described two states: ego involvement and task involvement. In ego involvement, individuals are in a state in which they reference others to determine their own ability. Individuals evaluate how well they have performed in relation to their perception of the average; people only believe that they have high ability if they meet or exceed this perceived average ability. However, task involvement is a state in which people reference themselves in order to determine ability. This evaluation is based solely on the gains or accomplishments of a person on a task, and the person adopts a less external perspective of him- or herself. Regardless of ego involvement or task

involvement, Nicholls believed that people want to demonstrate ability in achievement behavior; it is how the person conceptualizes ability that determines the goals that the person will set.

Ego-involved individuals, similar to individuals with performance goals, perceive their mastery of a task as a demonstration of their ability. Effort on part of the individual may lead to negative judgments of the individual's ability by others, leading to the acceptance of easier goals that require less effort. Task-involved individuals, similar to individuals with learning goals, perceive the increased understanding, mastery, or knowledge as an outcome and evaluate their ability on their evaluations of these gains. Further, these individuals see more effort as leading to more mastery and are likely to choose goals that require greater effort.

Research has supported both of these facets of goal orientation, showing both that people have stable trait-like goal orientations (e.g., Ames & Archer, 1988; Dweck, 1975; 1986; Payne et al., 2007) and that people can be influenced to focus on specific achievement goals.

Ames and Archer (1988) provided support for this notion by identifying the goal orientations of students for specific classes. Other research has examined this issue by studying the effects of directly manipulating the goal orientation state of a person for a specific task (Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000; Stevens & Gist, 1997).

Dimensions of Goal Orientation

Researchers have identified multiple dimensions of goal orientation. Button, Mathieu, and Zajac (1996) conceptualized learning and performance goal orientations not

as two extremes of one continuum as Dweck (1986) had thought but as two dimensions. Button et al. (1996) defined learning and performance goal orientations as neither mutually exclusive nor contradictory of one another. In a study examining these two dimensions of goal orientations as well as their relationships with other variables such as intelligence, Button et al. (1996) found evidence supporting goal orientation having multiple dimensions. They also raised the issue that if researchers categorized individuals as either learning goal oriented or performance goal oriented, then those researchers implicitly have taken the stance that the different dimensions of goal orientation are not separate and distinct from one another.

VandeWalle (1997) separated goal orientation into three dimensions: learning goal orientation, prove-performance goal orientation, and avoid-performance goal orientation. Similarly, other researchers have identified goal orientation not as two constructs on opposite ends of the same continuum, but as three distinct constructs (e.g., Elliot & Church, 1997). Dweck (1986) defined performance goals as goals intended to gain positive judgments from others as well as to avoid negative judgments from others. Conceptualizations such as this have led researchers to believe that performance goal orientation could be separated into two dimensions: a prove-performance goal orientation and an avoid-performance goal orientation (VandeWalle, 1997). Similarly, Elliot and Church (1997) separated performance goal orientation into performance-approach and performance-avoidance goal orientations, making an approach-avoidance distinction within the performance goal orientation construct.

Further, Elliot (1999) proposed a 2x2 conceptualization of goal orientation. Elliot identified competence goals, which could be separated into performance or

learning goals. Further, he identified two motivations that differ as a function of valence in achievement situations: approach motivation and avoidance motivation. Thus, Elliot conceptualized both an approach- and an avoidance-performance orientation, as well as an approach- and an avoidance-learning orientation, which he referred to as a mastery goal orientation. Whereas a mastery-approach goal orientation encouraged goals that increase the learning of skills and abilities of a person, Elliot posited that mastery-avoidance goal orientation encouraged a person to set goals that would prevent the loss of learned skills and abilities. The mastery-avoidance goal orientation is more difficult to conceptualize, and there is a lack of research suggesting it has effects on performance. For example, Yeo, Loft, Xiao, and Kiewitz (2009) found that even across two levels of analysis (i.e., intraindividual and interindividual), mastery-avoidance goal orientation had no significant relationship to task performance. Thus, learning, prove-performance, and avoid-performance seem to be the most relevant goal orientations in current research.

In the current study, I will use VandeWalle's (1997) three dimensions of goal orientation: learning goal orientation, prove-performance goal orientation, and avoid-performance goal orientation. People higher in learning goal orientation set goals that reflect a desire to master material, gain knowledge, and develop skills. People higher in prove-performance goal orientation set goals to demonstrate their ability to others. Finally, people higher in avoid-performance goal orientation set goals to avoid negative judgments from others. Prior research has shown that learning goal orientation tends to have the most beneficial effects on performance outcomes whereas avoid-performance goal orientation tends to have the most detrimental effects on performance outcomes (e.g., Payne et al., 2007). In examining goal orientation as two dimensions, Button et al.

(1996) found learning goal orientation to be positively related to performance whereas performance goal orientation was unrelated to performance. After separating performance goal orientation into two dimensions, research has found avoid-performance goal orientation to be negatively correlated with performance outcomes (Payne et al., 2007). Further, this research has demonstrated that goal orientation has an effect on self-set goal levels. This supports Dweck's (1986) idea that learning goals, regardless of a person's confidence in his or her own ability, should encourage a person to seek challenges and persist in the pursuit of these challenges.

However, Dweck (1986) stated that performance goals would lead to mastery-oriented, challenge-seeking goal-setting behavior only if a person had confidence in his or her abilities. This raises the issue of how self-efficacy interacts with goal orientation to influence self-set goal level. Specifically, it raises the question of how self-efficacy interacts with performance goal orientation to influence self-set goal level, as Dweck thought that a person's confidence in his or her ability to complete a task would not matter as much if a person set learning goals. Further, Dweck's early research did not distinguish between prove-performance goal orientation and avoid-performance goal orientation. Given that researchers have found stronger effects for avoid-performance goal orientation than prove-performance goal orientation (e.g., Payne et al., 2007), I will examine in the current study how self-efficacy interacts with avoid-performance goal orientation to influence self-set goal levels.

Self-Efficacy

Self-efficacy is a construct that describes an individual's belief that he or she can perform a task or reach a certain goal (Bandura, 1977; 1986). A person higher in self-

efficacy holds the belief that he or she can behave successfully in the manner required to produce a certain outcome. Thus, Bandura stated that people hold expectations both about what outcome will occur given a certain behavior and about whether he or she can produce that necessary behavior. A belief that a person can successfully reach a goal can influence how that person adapts to and copes with a given situation. People higher in self-efficacy act confidently and approach a situation whereas people lower in self-efficacy would likely try to avoid the situation because they do not expect to be successful in that situation.

Bandura (1977) described both general, stable aspects and task-specific, malleable aspects of self-efficacy. Generalized self-efficacy reflects a person's beliefs about his or her capabilities across situations. Thus, this aspect of self-efficacy is stable and trait-like; it is neither specific to a task nor likely to change quickly. Task-specific self-efficacy reflects an individual's beliefs about how likely it is that he or she will be able to perform a specific task at a specific level. This aspect of self-efficacy is state-like and is subject to change as one practices and learns the task.

Prior research has shown that people with higher self-efficacy for a given task set more difficult goals and perform better on that task than those lower in self-efficacy (e.g., Zimmerman, Bandura, & Martinez-Pons, 1992). In general, research has shown that self-efficacy is positively related to performance (e.g., Judge, Jackson, Shaw, Scott, & Rich, 2007; Stajkovic & Luthans, 1998). Self-efficacy is important to goal-setting in several regards, one being that individuals who are lower in self-efficacy might not pursue certain goals. That is, the lack of belief that one can accomplish something will prevent an individual from setting a difficult goal or being committed to the goal (Locke &

Latham, 2002). Another aspect is that when individuals set their own goals, goal level varies as a function of self-efficacy. Those higher in self-efficacy naturally will set more difficult goals for themselves (e.g., Zimmerman et al., 1992). Those lower will set more easily attained goals. Further, those higher in self-efficacy are more committed to the goals that they set, they discover and use better task strategies to accomplish these goals, and they respond more positively to negative feedback than do those who are low in self-efficacy (e.g., Zimmerman et al., 1992). In support of the idea that people with different goal orientation levels might choose to set different difficulty goals depending on their confidence in their own ability to complete a task, VandeWalle, Cron, and Slocum (2001) found that self-efficacy and goal level mediated the effects of goal orientations on performance.

The Current Research

My research is focused on examining the possible interactions between goal orientations and task-specific self-efficacy on self-set goal levels in order to better understand influences on goal setting behavior and in turn performance. Research has shown that learning goal orientation is positively related to self-set goal level (e.g., VandeWalle, Brown, Cron, & Slocum, 1999), that avoid-performance goal orientation is negatively related to self-set goal level, and that prove-performance goal orientation is not related to self-set goal level (Payne et al., 2007). Thus, I will not examine prove-performance goal orientation in the current study. As proposed by Dweck (1986), the idea behind these relationships is that those who desire to learn or master skills and material will set more difficult goals for themselves; they see their effort as an indicator of their learning. Similarly, Nicholls (1984) stated that people who are task-involved

reference only themselves to determine their own ability and will interpret the effort they put into the task as a sign of their mastery and thus a sign of their high ability. I expect to replicate research showing that learning goal orientation has a positive effect on self-set goal levels and performance and that avoid-performance goal orientation has a negative effect on self-set goal level and performance. Thus, I hypothesize in the current study that learning goal orientation will have a significant and positive effect on the difficulty of the goals that individuals set and on performance. Further, I hypothesize that avoid-performance goal orientation will have a significant and negative effect on goal level and performance.

Hypothesis 1a: Learning goal orientation is positively related to self-set goal level.

Hypothesis 1b: Learning goal orientation is positively related to performance.

Hypothesis 2a: Avoid-performance goal orientation is negatively related to self-set goal level.

Hypothesis 2b: Avoid-performance goal orientation is negatively related to performance.

Additionally, researchers have shown that people with higher self-efficacy, both task-specific and dispositional, tend to set more difficult, challenging goals for themselves (e.g., Zimmerman et al., 1992). Also, research has found that higher self-efficacy leads to higher performance (Judge et al., 2007; Stajkovic & Luthans, 1998). Individuals with high task-specific self-efficacy should set more difficult goals for themselves because they believe they can accomplish them. Thus, I expect to replicate findings that task-specific self-efficacy has a positive effect on self-set goal level and thus

performance. Therefore, I predict in the current study that I will find a significant effect of task-specific self-efficacy on self-set goal level and performance.

Hypothesis 3a: Task-specific self-efficacy is positively related to self-set goal level.

Hypothesis 3b: Task-specific self-efficacy is positively related to performance.

In the current study, I expect learning goal orientation to be positively related to self-set goal levels and to performance. Further, I expect avoid-performance goal orientation to be negatively related to self-set goal levels and to performance. Given that research has identified goal orientation as having multiple distinct dimensions (e.g., Button et al., 1996; VandeWalle, 1997), I will examine how learning goal orientation and avoid-performance orientation interact to influence the difficulty of one's goals as well as one's performance. I believe that learning goal orientation will be more positively related to self-set goal levels and to performance at lower levels of avoid-performance goal orientation than at higher levels of avoid-performance goal orientation.

However, Dweck (1986) provided indirect evidence that high levels of self-efficacy might encourage an individual to set more difficult goals and perform at a higher level regardless of whether the individual is more learning goal oriented or more performance goal oriented. I expect that learning goal orientation and avoid-performance goal orientation will interact in their effects on self-set goal levels and performance only when task-specific self-efficacy is lower. Higher self-efficacy will overpower the interaction between learning goal orientation and avoid-performance goal orientation. For example, given similar competence levels, a student with high levels of self-efficacy who is focused heavily on learning material and is unworried about embarrassing himself

or herself will set difficult goals and perform similarly to a student with high levels of self-efficacy who has less of a focus on learning and is more concerned with avoiding the negative judgments of others. However, I believe that when task-specific self-efficacy and avoid-performance goal orientation are low and when learning goal orientation is high, a person will set more difficult goals. Even if a person is not confident in his or her ability to complete a task, if that person wants to learn and is not worried about the judgments of others, then that person will set difficult goals in order to better learn and master the material, and, in turn, that person is likely to perform better. Further, I believe that when task-specific self-efficacy is lower but both learning goal orientation and avoid-performance goal orientation are higher, a person will set easier goals despite a higher learning goal orientation. That is, a person who wants to learn a task yet is unconfident and is worried about what others will think will set easier goals despite the desire to learn, and performance will be lower as well. Figure 1 displays the hypothesized interaction for a student setting a goal for an upcoming exam: At lower levels of task-specific self-efficacy, learning goal orientation will predict self-set goal level and performance more strongly and positively at higher versus lower levels of avoid-performance goal orientation.

Hypothesis 4a: At lower levels of task-specific self-efficacy, learning goal orientation is more strongly positively correlated to self-set goal level at lower levels of avoid-performance goal orientation than at higher levels of avoid-performance goal orientation.

Hypothesis 4b: At lower levels of task-specific self-efficacy, learning goal orientation is more strongly positively correlated to performance at lower levels avoid-performance goal orientation than at higher levels of avoid-performance goal orientation.

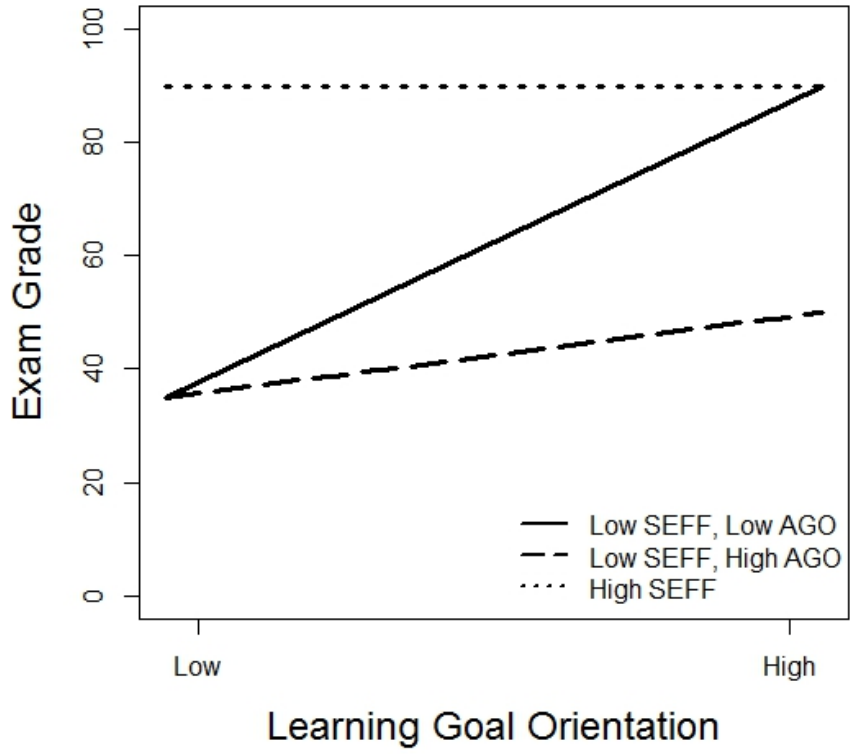

Figure 1. A hypothesized interaction effect between self-efficacy, learning goal orientation, and avoid-performance goal orientation on self-set goal levels for an exam. AGO is avoid-performance goal orientation, and SEFF is task-specific self-efficacy.

Method

Participants

I collected usable data from 485 participants who were recruited from a midsized, Midwestern university. Participants received extra credit in their introductory psychology course as compensation for participation in the study.

Measures

Task-specific self-efficacy. Task-specific self-efficacy was measured using a 10-item personal efficacy scale developed by Riggs, Warka, Babasa, Betancourt, and Hooker (1994). Responses were rated on a scale of *strongly disagree* (1) to *strongly agree* (5). The measure was scored by taking an average of the item responses. Higher scores on the scale indicated higher self-efficacy for the class. The internal consistency reliability for the personal efficacy scale was found to be $\alpha = .86$ (Riggs et al., 1994). See Appendix A for scale items. Items on the scale were reworded to reference tasks specific to the participants' introductory psychology class.

Goal orientation. Learning goal orientation, prove-performance goal orientation, and avoid-performance goal orientation were measured using a scale developed by VandeWalle (1997). A confirmatory factor analysis provided support for the 13 items in the scale being part of a three-factor model of goal orientation. Responses for each item on the scales ranged from *strongly disagree* (1) to *strongly agree* (6). The scale was scored by analyzing the average of the item responses. A higher score on each scale indicated a higher goal orientation of that dimension. An example learning goal orientation item is: "I am willing to select a challenging work assignment that I can learn a lot from." An example prove-performance goal orientation item is: "I'm concerned with showing that I can perform better than my coworkers." An example avoid-performance goal orientation item is: "I would avoid taking on a new task if there was a chance I would appear rather incompetent to others." The internal consistency reliabilities of the learning, prove, and avoid goal orientation scales were $\alpha = .89$, $\alpha = .85$, and $\alpha = .88$, respectively (VandeWalle, 1997). The test-retest reliability for each scale

studied at two separate times were $r = .66$, $r = .60$, and $r = .57$. The scale in its current form was specific to the work environment and was reworded to fit an academic environment for the current study. See Appendix B for the 13 items. Items were revised to indicate "class" or "student" in place of "work" and "coworker".

Self-set goal level. Self-set goal level was measured half-way through the introductory psychology course using two questions asking the participant to state his or her goal for the final exam score and for the final score in the course on a 0-100 percentage scale. See Appendix C for a list of items.

Goal commitment. Commitment to the previous goals was measured using a measure developed by Hollenbeck, Klein, O'Leary, and Wright (1989). The scale consisted of four items with responses ranging from *strongly disagree* (1) to *strongly agree* (5). The four items were negatively keyed and were reverse-scored to calculate the scale score. The scale score was the average of the item responses, and higher scores indicated higher commitment to the goal. The internal consistency reliability for this scale was $\alpha = .80$ (Hollenbeck et al., 1989). An example item is: "It's hard to take this goal seriously." See Appendix D for a list of items.

Performance. Performance was measured using the participants' percentage score on the final exam and percentage of the course total points. It should be noted that the course grade is composed of online homework assignments as well as four repeatable, online exams, as well as one comprehensive, unrepeatable final exam.

Demographics. Demographics were measured in a questionnaire asking participants about age, sex, major, and ethnicity. See Appendix E for more information.

Alternative Measures

The following measures were included to enable examination of alternative explanations for results.

Generalized self-efficacy. Generalized self-efficacy was measured using the New Generalized Self-Efficacy (NGSE) scale (Chen, Gully, & Eden, 2001). The NGSE is an 8-item scale. For each item, participants rated on a 5-point scale the degree to which they disagree (1, *strongly disagree)* or agree (5, *strongly agree)* with the item. The scale was scored by taking an average of the item responses. Higher scores indicated higher generalized self-efficacy. An example generalized self-efficacy item is: "I will be able to achieve most of the goals that I have set for myself." Chen et al. found the NGSE to have an internal consistency of $\alpha = .86$, demonstrating the unidimensionality of the scale, and found the scale to be stable ($r = .67$). See Appendix F for scale items.

Cognitive ability. Cognitive ability was measured using the Shipley Institute of Living Scale (SILS) (Shipley, 1940). The SILS is a 60-item scale. A 40-item multiple choice vocabulary section asks the participant to choose one of four responses that has the most similar meaning to a target word. In a 20-item fill-in-the-blank abstraction section, participants must complete a pattern with the correct response. To score the scale, the number of correct answers from each section was summed, with the abstraction correct responses multiplied by two. Higher scores on the test indicated greater cognitive ability. An example vocabulary item is: "TALK" with choices "draw, speak, eat, sleep." An example abstraction item is: "1, 2, 3, 4, 5, ___." Bowers and Pantle (1998) found the SILS to provide similar IQ estimates to other measures of cognitive ability with correlations ranging from .77 to .83.

Self-consciousness. Self-consciousness was measured using a self-consciousness developed by Scheier and Carver (1985), who revised the original scale developed by Fenigstein, Scheier, and Buss (1975). The revised scale measured three factors: private self-consciousness, public self-consciousness, and social anxiety. The measure was a 22-item scale in which each item was rated on a scale of *not like me* (0) to *a lot like me* (4). In order to score the scale, item responses were averaged. A higher score on the scale indicated more self-consciousness. The internal consistency reliabilities for the scales were .75, .84, and .79 for private self-consciousness, public self-consciousness, and social anxiety, respectively. An example private self-consciousness item is: "I'm always trying to figure myself out." An example public self-consciousness item is: "I'm concerned about my style of doing things." An example social anxiety item is: "I'm self-conscious about the way I look." See Appendix G for a complete list of items.

Conscientiousness. Conscientiousness was measured using a 10-item scale from the International Personality Item Pool ("International Personality Item Pool," n.d.). Items were rated on a scale of *very inaccurate* (1) to *very accurate* (5). The scale was scored by taking the average of the responses with negatively scored items being reverse coded. Higher scores on the scale indicated the individual is more conscientious. The internal consistency reliability of the scale was .81. Participants were asked to describe how accurately each statement describes him- or herself. An example conscientiousness item is: "Pay attention to details." See Appendix H for a complete list of items.

Need for Achievement. Need for achievement was measured using the Achievement (Ac) subscale of Jackson's *Personality Research Form* (Jackson, 1989). The measure is a 20-item subscale in which participants decide if a statement describes

them and rates the items as either *true* or *false*. Ten items were reverse coded, and items were summed to create a raw score for analysis. Higher scores represented a greater need for achievement. The test-retest reliability of the Achievement subscale has a range of $r = .80$ to $r = .87$, and the internal consistency reliability is $\alpha = .77$ (Jackson, 1989). An example item is: "I enjoy doing things which challenge me." See Appendix I for a complete list of items.

Intrinsic motivation. Intrinsic motivation was measured using the *Intrinsic Motivation Inventory* (Ryan, 1982). It is a 21-item scale in which items are rated on a scale of *strongly disagree* (1) to *strongly agree* (7). The scale measures multiple aspects of intrinsic motivation: interest/enjoyment, competence, effort/importance, and pressure/tension. Intrinsic motivation was scored by averaging all the items. Higher scores indicated more intrinsic motivation toward the task. The internal consistency reliability of the scale ranged from .76 to .84 (McAuley, Wraith, & Duncan, 1991). An example interest/enjoyment item is: "I enjoy participating in this task very much." An example competence item is: I think I am pretty good at this task." An example effort/importance item is: "I put a lot of effort into this task." An example pressure/tension item is: "I do not feel nervous at all while participating on this task." See Appendix J for a complete list of items.

Class perceptions. Class perceptions of difficulty and complexity were measured using a reworded *Task Perceptions* scale (Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000). The measure is a 12-item scale assessing perceived task complexity and difficulty, satisfaction with performance, feedback helpfulness and negative affect. Items were rated on a scale of *not at all* (1) to *very* or *to a great extent* (7). The measure

was scored by taking the average of the items for each dimension. Higher scores reflected a higher perception of task complexity and difficulty. The internal consistency reliabilities for the scale ranged from .71 to .77 (Steele-Johnson et al., 2000). Items were reworded to indicate "class" instead of "task." An example item is: "How difficult are the rules for performing in this class?" See Appendix K for a list of items.

Goal and mode values. Goal and mode values were measured using goal and mode values inventories developed by Braithwaite and Law (1985). I used 10 items from three subscales: Social standing, secure and satisfying interpersonal relationships, and social stimulation. Items represented goals which participants will reject or accept to varying extents as being a guiding principle in their lives. Responses were rated on a scale of *I reject this* (1) to *I accept this as of the greatest importance* (7). Higher scores on the scale indicated higher goal values. An example item is: "Recognition by the community (having high standing in the community." Internal consistencies for the goal value subscales were .70, .70, and .56, for social standing, secure and satisfying interpersonal relationships, and social stimulation, respectively (Braithwaite & Law, 1985). See Appendix L for a list of goal value items. The mode values scales used in the current study contained 27 items in three subscales that measured: Positive orientation to others, competence and effectiveness, and getting ahead. Items represented modes of behavior which participants rejected or accepted to varying extents as being descriptive of their own lives. Responses were rated on the same scale as goal values, and higher scores indicated higher mode values. An example item is: "Resourceful (being clever at finding ways to achieve a goal)." Internal consistency reliabilities for the mode value subscales were α = .89, .89, and .66, for a positive orientation to others, competence and

effectiveness, and getting ahead, respectively. See Appendix M for a list of mode value items.

Procedure

Students were given a survey questionnaire half-way through their introductory psychology course. First, students completed an informed consent process. See Appendix N for the cover letter. Second, participants were asked for their permission to obtain information on their final exam and course scores. See Appendix O for the waiver form. Third, participants completed measures of learning goal orientation, prove-performance goal orientation, avoid-performance goal orientation, and task-specific self-efficacy. Participants completed a question about planned grade goals for the course, the demographics measure, and finally the alternative measures. Participants were debriefed about the purpose of the study and were given credit for participation. See Appendix P for the debriefing. Lastly, class and exam scores were retrieved from the instructor at the end of the semester.

Results

Data Cleaning

Out of the 519 participants who completed the survey, 34 participants were removed due to substantial missing data. Further, 11 participants were removed from the study because they reported their age as being under 18, and thus we were unable to collect data from these participants. Three (3) participants displayed insufficient effort responding (e.g., random keystrokes for responses on the cognitive ability measure) and were identified to determine whether any significant differences resulted from the inclusion/exclusion of these participants' data. One hundred thirty-four (134)

participants did not give permission to retrieve final class grades and exam scores and thus were excluded from those analyses.

Psychometric Properties of Measures

Goal orientation. To evaluate the dimensionality of the goal orientation measure (VandeWalle, 1997), I first conducted an exploratory factor analysis on the 13 scale items. I examined a scree plot of the eigenvalues, which provided evidence of three separate factors (See Figure 2). Next, I examined one-, two-, and three-factor solutions to evaluate fit. For the one-factor solution, the learning goal orientation items produced substantial factor loadings, the prove-performance goal orientation items provided small to moderate factor loadings, and the avoid-performance goal orientation items provided small factor loadings (See Table 1).

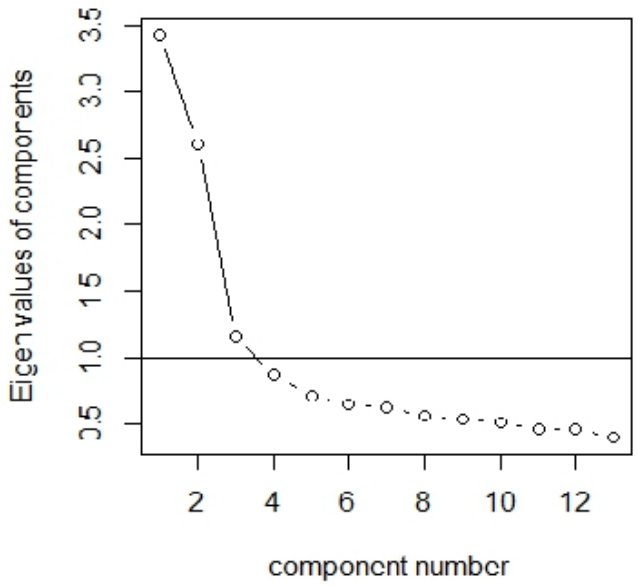

Figure 2. Scree plot of the VandeWalle (1997) goal orientation scale eigenvalues

Table 1

Goal Orientation One-Factor Solution Factor Loadings

Items	Factor 1	*h2*	*u2*
LGO1	0.62	0.38	0.62
LGO2	0.73	0.53	0.47
LGO3	0.69	0.48	0.52
LGO4	0.61	0.37	0.63
LGO5	0.70	0.48	0.52
PGO1	0.26	0.07	0.93
PGO2	0.42	0.17	0.83
PGO3	0.36	0.13	0.87
PGO4	0.37	0.13	0.87
AGO1	-0.11	0.01	0.99
AGO2	-0.13	0.02	0.98
AGO3	-0.04	0.00	1.00
AGO4	-0.01	0.00	1.00

Note. LGO = Learning Goal Orientation, PGO = Prove-performance Goal Orientation, AGO = Avoid-performance Goal Orientation, h2 = communality, u2 = uniqueness

Subsequently, I tested a two-factor solution and evaluated fit. The correlation between factors was 0.03. I examined the two-factor solution with an orthogonal rotation and found no differences between it and the solution with an oblique rotation. The learning goal orientation items loaded onto the first factor, and the prove-performance and avoid-performance goal orientation items loaded onto the second. Moreover, prove-performance items cross-loaded on the first factor (See Tables 2 and 3). I defined cross-loadings as loadings greater than or equal to 0.3 on both factors with a difference between loadings of less than or equal to 0.3.

Table 2

Goal Orientation Two-Factor Solution Factor Loadings with Oblique Rotations

Items	Factor 1	Factor 2	*h2*	*u2*
LGO1	0.62	-0.04	0.38	0.62
LGO2	0.74	-0.05	0.55	0.45
LGO3	0.70	-0.07	0.50	0.50
LGO4	0.61	-0.04	0.37	0.63
LGO5	0.69	0.04	0.48	0.52
PGO1	0.22	0.47	0.27	0.73
PGO2	0.39	0.41	0.33	0.67
PGO3	0.34	0.49	0.36	0.64
PGO4	0.34	0.37	0.26	0.74
AGO1	-0.18	0.58	0.36	0.64
AGO2	-0.20	0.60	0.40	0.60
AGO3	-0.10	0.56	0.32	0.68
AGO4	-0.06	0.46	0.22	0.78

Note. LGO = Learning Goal Orientation, PGO = Prove-performance Goal Orientation, AGO = Avoid-performance Goal Orientation, h2 = communality, u2 = uniqueness

Table 3

Goal Orientation Two-Factor Solution Factor Loadings with Orthogonal Rotations

Items	Factor 1	Factor 2	*h2*	*u2*
LGO1	0.62	-0.05	0.38	0.62
LGO2	0.74	-0.05	0.55	0.45
LGO3	0.70	-0.07	0.50	0.50
LGO4	0.61	-0.05	0.37	0.63
LGO5	0.69	0.04	0.48	0.52
PGO1	0.24	0.46	0.27	0.73
PGO2	0.41	0.41	0.33	0.67
PGO3	0.35	0.49	0.36	0.64
PGO4	0.35	0.37	0.26	0.74
AGO1	-0.16	0.58	0.36	0.64
AGO2	-0.18	0.60	0.40	0.60
AGO3	-0.19	0.56	0.32	0.68
AGO4	-0.05	0.46	0.22	0.78

Note. LGO = Learning Goal Orientation, PGO = Prove-performance Goal Orientation, AGO = Avoid-performance Goal Orientation, h2 = communality, u2 = uniqueness

Then, I examined a three-factor solution, which provided the best fit. The correlation between the learning goal orientation factor and the prove-performance goal orientation factor was 0.38, between the learning goal orientation factor and the avoid-performance goal orientation factor was -0.19, and between the prove-performance goal orientation factor and the avoid-performance goal orientation factor was 0.31. I used an oblique rotation for this factor analysis due to the correlations between factors. Also, I examined an orthogonal rotation for thoroughness and found no differences in loadings between the two rotations. Items on each dimension of goal orientation (i.e., learning, prove-performance, and avoid-performance) loaded onto the appropriate factor, and items reflected low (PGO1 and AGO2) to no cross-loadings on the other factors (See Tables 4 and 5). Finally, I calculated a Cronbach's alpha for each of the three goal orientation dimensions. I observed reasonable alpha coefficients of .81, .69, and .70 for the learning, prove-performance, and avoid-performance goal orientations, respectively.

Table 4

Goal Orientation Three-Factor Solution Factor Loadings with Oblique Rotations

Items	Factor 1	Factor 2	Factor 3	*h2*	*u2*
LGO1	0.67	-0.05	0.04	0.42	0.58
LGO2	0.70	0.07	-0.05	0.55	0.45
LGO3	0.70	0.02	-0.03	0.51	0.49
LGO4	0.68	-0.07	0.07	0.41	0.59
LGO5	0.61	0.16	-0.03	0.47	0.53
PGO1	0.06	0.41	0.20	0.27	0.73
PGO2	0.04	0.69	-0.06	0.47	0.53
PGO3	0.01	0.68	0.05	0.48	0.52
PGO4	0.07	0.53	0.01	0.32	0.68
AGO1	-0.02	-0.02	0.69	0.48	0.52
AGO2	-0.20	0.20	0.48	0.38	0.62
AGO3	-0.04	0.11	0.55	0.35	0.65
AGO4	-0.12	-0.08	0.62	0.34	0.66

Note. LGO = Learning Goal Orientation, PGO = Prove-performance Goal Orientation, AGO = Avoid-performance Goal Orientation, h2 = communality, u2 = uniqueness

Table 5

Goal Orientation Three-Factor Solution Factor Loadings with Orthogonal Rotations

Items	Factor 1	Factor 2	Factor 3	*h2*	*u2*
LGO1	0.64	0.09	-0.04	0.42	0.58
LGO2	0.70	0.20	-0.11	0.55	0.45
LGO3	0.69	0.15	-0.10	0.51	0.49
LGO4	0.64	0.08	-0.02	0.41	0.59
LGO5	0.63	0.27	-0.07	0.47	0.53
PGO1	0.12	0.43	0.27	0.27	0.73
PGO2	0.19	0.66	0.07	0.47	0.53
PGO3	0.15	0.66	0.18	0.48	0.52
PGO4	0.19	0.53	0.10	0.32	0.68
AGO1	-0.11	0.08	0.68	0.48	0.52
AGO2	-0.21	0.23	0.53	0.38	0.62
AGO3	-0.08	0.18	0.55	0.35	0.65
AGO4	0.03	0.04	0.58	0.34	0.66

Note. LGO = Learning Goal Orientation, PGO = Prove-performance Goal Orientation, AGO = Avoid-performance Goal Orientation, h2 = communality, u2 = uniqueness

Self-efficacy. To examine internal consistency reliability for the self-efficacy scales, I calculated alpha coefficients for the task-specific self-efficacy scale (Riggs et al., 1994) and the general self-efficacy scale (Chen et al., 2001). Results showed alpha coefficients of .68 for task-specific self-efficacy and .90 for general self-efficacy. However, the analysis indicated that Item 3 of the task-specific self-efficacy scale correlated negatively despite being positively keyed. Item 3 was: "When my grades are poor, it is due to my lack of ability." This item was excluded from analyses, and the alpha coefficient was recalculated, obtaining $\alpha = .78$. The task-specific self-efficacy scale with Item 3 removed was used in subsequent analyses for hypothesis testing.

Conscientiousness and need for achievement. I tested internal consistency reliability for the conscientiousness ("International Personality Item Pool," n.d.) and need for achievement (Jackson, 1989) scales. The alpha coefficients for conscientiousness and need for achievement were .88 and .67, respectively. For the need for achievement scale, analyses indicated that Items 3 ("I get disgusted at myself when I have not learned something properly") and 17 ("Sometimes people say I neglect other important aspects of my life because I work so hard") correlated negatively with the other items despite being positively keyed. I excluded these items from further analyses and recalculated the alpha coefficient observing $\alpha = .71$.

Goal commitment and class perceptions. I examined internal consistency reliabilities for goal commitment (Hollenbeck et al., 1989) and class perceptions (Steele-Johnson et al., 2000), finding $\alpha = .75$ for goal commitment and $\alpha = .70$ for class perceptions. Further, I examined the internal consistency reliability for the cognitive ability test, the SILS (Shipley, 1940) and observed an alpha coefficient of .90.

Self-consciousness and intrinsic motivation. For the self-consciousness scale (Scheier, 1985), the internal consistency reliability coefficients were .76 for private self-consciousness, .80 for public self-consciousness, and .80 for social anxiety. For the subscale measures of intrinsic motivation (Ryan, 1982), alpha coefficients were .81 for interest/enjoyment, .78 for competence, .81 for effort/importance, and .71 for pressure/tension. The internal consistency reliability was .85 for the composite intrinsic motivation scale. However, analyses indicated that the intrinsic motivation–interest/enjoyment Item 4 was inappropriately negatively correlated with the other items. Removal of this item and recalculation of the alphas produced α = .86 for the interest/enjoyment subscale and α = .89 for the total combined intrinsic motivation scale. Consistent with prior research (e.g., McAuley et al., 1991), I used the composite measure in subsequent analyses.

Goal and mode values. I examined the internal consistency reliability coefficients for the goal and mode values subscales (Braithwaite & Law, 1985). For the goal values measure, results showed α = .70 for the social standing subscale, α = .85 for the secure and satisfying interpersonal relationships subscale, and α = .72 for the social stimulation subscale. For the mode values measure, results indicated α = .95 for the positive orientation to others subscale, α = .95 for the competence and effectiveness subscale, and α = .58 for the getting ahead subscale. The getting ahead subscale was excluded from further analyses due to low internal reliability.

Descriptive Statistics

The mean age for participants in the current study was 19.3 years with a standard deviation of 3.49 years. Of those participants, 62% were female, and 38% were male.

Seventy-seven percent (77%) of the participants were college freshmen, 16% were sophomores, 4% were juniors, 1.5% were seniors, and 1.5% beyond senior rank. Of the participants in the experiment, 71% white and 15% were black. Because a large group of participants did not give permission to retrieve performance scores, I examined descriptive statistics for those who did give permission and those who did not. A summary of descriptive statistics for participants who gave permission to retrieve performance data and those who did not is included in Table 6. Further, I conducted a two-tailed independent samples *t*-test to examine whether a difference in cognitive ability existed between the two groups, but results showed no significant difference, $t(226) = -1.07$, $p = .28$. Means, standard deviations, and correlations for each of the primary study variables, including goal orientations, task-specific self-efficacy, goals, and outcomes, are included in Table 7. Correlations between primary study variables and the additional measures are included in Table 8. Means, standard deviations, and correlations for each of the additional measures are included in Table 9.

Table 6

Descriptive Statistics

Variables	No Performance Data (N = 134)	Gave Performance Data (N = 351)	Total (N = 485)
Age	19.10 (2.81)	19.37 (3.72)	19.30 (3.49)
Sex			
Male	42%	36%	38%
Female	58%	64%	62%
Class Rank			
Freshman	76%	77%	77%
Sophomore	17%	16%	16%
Junior	5%	3%	4%
Senior +	2%	4%	3%
Race			
White	71%	71%	71%
Black	12%	16%	15%

Note. Age is given in years with standard deviations in parentheses.

Table 7

Means, Standard Deviations, and Correlations Between Primary Study Variables

Variables	*M*	*SD*	1	2	3	4	5	6	7	8
1. Learning Goal Orientation	4.31	0.79	0.81							
2. Prove-performance Goal Orientation	3.86	0.87	0.35***	0.69						
3. Avoid-performance Goal Orientation	3.65	0.86	-0.14**	0.29***	0.70					
4. Task-Specific Self-Efficacy	3.58	0.59	0.42***	0.14**	-0.24***	0.78				
5. Final Exam Goal Levels	84.62	11.22	0.16***	0.08	-0.06	0.21***	__			
6. Class Goal Levels	87.09	12.37	0.19***	0.13**	-0.04	0.24***	0.68	__		
7. Final Exam Grade	64.17	17.03	0.15**	0.05	-0.05	0.20***	0.09	0.10	__	
8. Class Grade	82.03	13.29	0.21***	0.09	-0.11*	0.21***	0.27***	0.35***	0.62***	__

Note. Alpha coefficients are placed along the diagonal.
* indicates significance at the $p < .05$ level.
** indicates significance at the $p < .01$ level.
*** indicates significance at the $p < .001$ level.

Table 8

Means, Standard Deviations, and Correlations Between Primary and Secondary Variables

Variables	LGO	PGO	AGO	TSSEFF	Exam Goals	Class Goals	Exam Grades	Class Grades
Age	0.08	-0.12*	-0.15***	0.04	0.03	0.01	0.13*	0.14**
Sex	-0.08	-0.08	0.07	-0.02	-0.05	0.04	0.04	-0.02
Cognitive Ability	0.22***	0.04	-0.01	0.25***	0.16***	0.21***	0.36***	0.26***
Cognitive Check	0.05	0.06	0.04`	0.03	0.00	0.05	0.00	0.04
General Self-efficacy	0.55***	0.23***	-0.11*	0.50***	0.10*	0.13**	0.08	0.10
Concientiousness	0.42***	0.13**	-0.22***	0.38***	0.07	0.12**	0.08	0.16**
Need for Achievement	0.50***	0.10*	-0.29***	0.33***	0.12**	0.15***	0.12*	0.15**
Private Self-Consciousness	0.18***	0.20***	0.08	0.12**	0.06	0.06	-0.02	-0.08
Public Self-Consciousness	-0.04	0.21***	0.28***	-0.10*	-0.03	0.08	-0.02	-0.03
Social Anxiety	-0.24***	0.03	0.31***	-0.29***	0.00	-0.05	0.05	-0.01
IM-Interest	0.35***	0.05	-0.21***	0.30***	0.07	0.08	0.03	0.01
IM-Competence	0.36***	0.21***	-0.10*	0.53***	0.16***	0.20***	0.19***	0.17**
IM-Effort	0.28***	0.04	-0.18***	0.15***	0.05	0.04	0.01	0.09
IM-Pressure	0.27***	0.08	-0.18***	0.30***	0.05	0.06	0.10	0.07
Intrinsic Motivation	0.41*	0.10*	-0.23***	0.39***	0.10*	0.11*	0.07	0.08
Class Perceptions	0.07	0.10*	0.07	-0.19***	-0.02	0.00	0.00	0.02
GV - Social Standing	0.14***	0.25***	0.04	0.11*	0.03	0.07	-0.04	0.06
GV - Secure Relationships	0.18***	0.07	0.02	0.12**	0.00	0.08	0.18***	0.13*
GV - Social Stimulation	0.15***	0.12**	-0.02	0.08	-0.02	0.05	0.11*	0.08
MV - Positive Orientation	0.30***	0.08	-0.05	0.17***	0.06	0.09*	0.21***	0.20***
MV - Competence	0.39***	0.15***	-0.09*	0.30***	0.10*	0.14**	0.12*	0.17**
Goal Commitment	0.35***	0.10*	-0.18***	0.48***	0.06	0.15***	0.08	0.11*

Note. LGO is learning goal orientation, PGO is prove-performance goal orientation, AGO is avoid-performance goal orientation, TSSEFF is task-specific self-efficacy, Cognitive Check is a self-report of whether or not participants used an additional source for the cognitive ability test, IM-Interest; IM-Competence; IM-Effect; and IM-Pressure are the interest, competence, effort, and pressure portions of the intrinsic motivation scale, respectively, IM is intrinsic motivation, Class Perceptions is perceptions of class difficulty, GV – Social Standing; GV – Secure Relationships; and GV – Social Stimulation are the social standing, secure relationships, and social stimulation portions of the goal values scale, respectively, MV – Positive Orientation and MV - Competence are the positive orientation toward others and competence portions of the mode values scale, respectively.

* indicates significance at the $p < .05$ level.

** indicates significance at the $p < .01$ level.

*** indicates significance at the $p < .001$ level.

Table 9

Means, Standard Deviations, and Correlations Between Secondary Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Age	19.30	3.49	__																					
2. Sex	0.62	0.49	-0.11	__																				
3. CogAbil	50.54	12.63	0.05	-0.07	0.90																			
4. CogCheck	0.12	0.33	-0.06	0.02	0.16	__																		
5. GSEFF	3.96	0.58	0.00	-0.07	0.20	0.00	0.90																	
6. Con	3.58	0.68	0.04	0.01	0.08	0.00	0.47	0.88																
7. NfA	0.66	0.19	0.03	0.04	0.13	0.04	0.39	0.56	0.71															
8. PrivSelfCon	2.79	0.54	0.02	0.03	0.03	0.11	0.21	0.05	0.07	0.76														
9. PubSelfCon	2.88	0.62	-0.03	0.16	-0.02	0.06	-0.01	-0.06	-0.04	0.40	0.80													
10. SocialAnx	2.56	0.73	-0.10	0.20	-0.08	0.06	-0.24	-0.26	-0.30	0.07	0.31	0.80												
11. IM-Interest	4.39	1.04	0.14	-0.01	0.08	0.14	0.27	0.28	0.27	0.20	-0.05	-0.18	0.86											
12. IM-Comp	4.66	1.00	0.07	-0.04	0.17	-0.03	0.42	0.32	0.24	0.23	0.06	-0.18	0.52	0.78										
13. IM-Effort	4.37	1.19	0.06	0.08	-0.11	0.04	0.13	0.39	0.30	0.12	-0.04	0.00	0.48	0.32	0.81									
14. IM-Press	4.28	0.71	0.03	-0.07	0.09	0.07	0.29	0.18	0.18	0.15	-0.09	-0.33	0.38	0.46	0.19	0.71								
15. IM	4.41	0.78	0.12	0.00	0.06	0.10	0.33	0.38	0.33	0.23	-0.04	-0.21	0.92	0.69	0.69	0.56	0.89							
16. ClassPer	4.38	0.62	0.06	0.01	-0.03	0.08	0.03	-0.04	-0.02	0.16	0.17	0.08	0.16	0.11	0.23	0.08	0.20	0.70						
17. GVStand	4.70	1.12	0.07	-0.04	0.02	0.04	0.17	0.12	0.12	0.21	0.22	-0.18	0.13	0.25	0.08	0.16	0.18	0.23	0.70					
18. GVSec	5.72	1.04	0.05	0.15	0.22	0.06	0.20	0.11	0.13	0.24	0.28	-0.01	0.16	0.25	0.08	0.08	0.19	0.31	0.45	0.85				
19. GVStim	5.46	1.15	0.03	0.11	0.09	0.09	0.19	0.09	0.11	0.22	0.27	-0.12	0.10	0.20	0.10	0.15	0.15	0.26	0.41	0.63	0.72			
20. MVPos	5.56	0.97	0.03	0.20	0.16	0.09	0.26	0.28	0.31	0.24	0.29	-0.06	0.25	0.27	0.23	0.16	0.30	0.28	0.31	0.68	0.54	0.95		
21. MVComp	5.65	0.90	0.03	0.08	0.19	0.13	0.37	0.31	0.33	0.24	0.21	-0.11	0.27	0.34	0.20	0.19	0.32	0.27	0.40	0.60	0.50	0.73	0.95	
22. GoalCom	3.88	0.73	-0.02	0.04	0.29	0.09	0.42	0.43	0.37	0.05	-0.03	-0.23	0.29	0.23	0.20	0.14	0.31	-0.10	0.09	0.11	0.08	0.20	0.23	0.75

Note. CogAbil is cognitive ability, CogCheck is a self-report of using an aid for the ability test, GSEFF is general self-efficacy, Con is conscientiousness, NfA is need for achievement, PrivSelfCon is private self-consciousness, PubSelfCon is public self-consciousness, SocialAnx is social anxiety, IM-Interest; IM-Competence; IM-Effect; and IM-Pressure are the interest, competence, effort, and pressure portions of the intrinsic motivation scale, respectively, IM is intrinsic motivation, ClassPer is perceptions of class difficulty, GVStand; GVSec; and GVStim are the social standing, secure relationships, and social stimulation portions of the goal values scale, respectively, MVPos and MVComp are the positive orientation toward others and competence portions of the mode values scale, respectively, and GoalCom is goal commitment. Alpha coefficients are listed along the diagonal. Any correlations above .09 are significant at the .05 level.

Hypothesis Testing

Hypothesis 1a stated that learning goal orientation is positively related to self-set goal levels, and Hypothesis 1b stated that learning goal orientation is related positively to performance. To test these hypotheses, I regressed two measures of self-set goal levels (final class grade goals and final exam grade goals) and two measures of performance (final class grades and final exam grades) on learning goal orientation while accounting for cognitive ability. Learning goal orientation was related significantly and positively to class goals (β = 0.16, t = 3.44, p < .001), to exam goals (β = 0.13, t = 2.87, p < .01), and to class grades (β = 0.16, t = 3.09, p < .01) but showed no relationship with exam grades (β = 0.10, t = 1.93, p = .05). After regressing the outcomes on cognitive ability, adding learning goal orientation to the regression equation provided a ΔR^2 of .028, .016, and .05 for class goals, exam goals, and class grades, respectively. These results supported Hypothesis 1a but only partially supported Hypothesis 1b (See Table 10).

Hypothesis 2a stated that avoid-performance goal orientation is related negatively to self-set goal levels, and Hypothesis 2b stated that avoid-performance goal orientation is related negatively to performance. To test these hypotheses, I regressed my same four dependent measures onto avoid-performance goal orientation while controlling for cognitive ability. Avoid-performance goal orientation showed no significant relationship to class goals (β = -0.03, t = -0.60, p = .05), exam goals (β = -0.05, t = -1.09, p = .28), class grades (β = -0.09, t = -1.75, p = .08), or exam grades (β = -0.04, t = -0.87, p = .38). These results failed to support Hypotheses 2a and 2b (See Table 10).

Hypothesis 3a stated that task-specific self-efficacy is related positively to self-set goal levels, and Hypothesis 3b stated that task-specific self-efficacy is related positively

to performance. To test these hypotheses, I regressed class and exam goals and grades onto task-specific self-efficacy while accounting for cognitive ability. Results demonstrated a positive significant relationship between task-specific self-efficacy and class goals (β = 0.20, t = 4.52, p < .001), exam goals (β = 0.18, t = 3.95, p <.001), class grades (β = 0.15, t = 2.83, p < .01), and exam grades (β = 0.12, t = 2.28, p < .05). After regressing the outcomes on cognitive ability, adding task-specific self-efficacy to the regression equation provided a ΔR^2 of .023, .012, .046, and .10 for class goals, exam goals, class grades, and exam grades, respectively. These results supported Hypotheses 3a and 3b (See Table 10).

Table 10

Main Effects of Main Variables on Goals and Grades Controlling for Cognitive Ability

Hypothesis 1:	Class Goals		Exam Goals		Class Grades		Exam Grades	
LGO	β	t	β	t	β	t	β	t
LGO	0.16	3.44***	0.13	2.87**	0.16	3.09**	0.10	1.93
Cognitive Ability	0.18	3.92***	0.14	2.97**	0.23	4.46***	0.34	6.66***
Model F	17.33***		10.83***		18.16***		26.61***	
Model R^2	0.06		0.04		0.09		0.13	
Hypothesis 2:	Class Goals		Exam Goals		Class Grades		Exam Grades	
AGO	β	t	β	t	β	t	β	t
AGO	-0.03	-0.60	-0.05	-1.09	-0.09	-1.75	-0.04	-0.87
Cognitive Ability	0.21	4.71***	0.16	3.62***	0.26	5.04***	0.36	6.98***
Model F	11.31***		7.21***		14.68***		24.91***	
Model R^2	0.04		0.03		0.07		0.125	
Hypothesis 3:	Class Goals		Exam Goals		Class Grades		Exam Grades	
TSSEFF	β	t	β	t	β	t	β	t
TSSEFF	0.20	4.52***	0.18	3.95***	0.15	2.83**	0.12	2.28*
Cognitive Ability	0.16	3.51***	0.12	2.57*	0.23	4.34***	0.33	6.31***
Model F	21.83***		14.61***		17.32***		27.45***	
Model R^2	0.08		0.05		0.09		0.14	

Note. LGO is learning goal orientation, AGO is avoid-performance goal orientation, and TSSEFF is task-specific self-efficacy.
* indicates significance at the .05 level.
** indicates significance at the .01 level.
*** indicates significance at the .001 level.

Hypothesis 4 stated that at lower levels of task-specific self-efficacy, learning goal orientation is more strongly positively correlated to self-set goal levels (Hypothesis 4a) and to performance (Hypothesis 4b) at lower levels of avoid-performance goal orientation than at higher levels of avoid-performance goal orientation. Before testing this hypothesis, I mean-centered my main variables (learning goal orientation, avoid-performance goal orientation, task-specific self-efficacy, and cognitive ability) to reduce multicollinearity effects between the main variables and their interaction terms. Then, I used a multi-step process to test Hypotheses 4a and 4b. In Step 1, to account fully for any influences cognitive ability might have on goals and performance, I ran a multiple regression analysis to determine whether cognitive ability interacted with any of the three predictor variables to affect class and exam goals and performance. I found that self-efficacy and cognitive ability interacted in their effect on class grades (β = 0.01, t = 2.30, $p < .05$) and exam grades (β = 0.02, t = 2.67, $p < .01$, see Table 11). Task-specific self-efficacy was more strongly and positively related to class and exam grades at higher levels of cognitive ability (See Figures 3 and 4). After running a regression model with all the control variables, adding in the self-efficacy and cognitive ability interaction effect produced a ΔR^2 of .01 for class grades and .02 for exam grades. Thus, I accounted for this interaction effect in all subsequent analyses concerning class grades and exam grades. Further, I conducted subsequent analyses on class goals and exam goals with and without this interaction effect.

Table 11

Two-Way Interaction Models Between Main Variables and Cognitive Ability

Model 1: LGO by Cognitive Ability	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
LGO	0.08	1.80	0.07	1.43	0.10	1.81	0.06	1.08
AGO	0.02	0.44	-0.01	-0.12	-0.06	-1.10	-0.00	-0.04
TSSEFF	0.18	3.57***	0.15	3.02**	0.10	1.65	0.09	1.53
Cognitive Ability	0.14	2.96**	0.11	2.24*	0.20	3.74***	0.33	6.21***
LGO*Cog	-0.00	-0.34	-0.00	-0.37	-0.01	-1.62	0.00	0.04
Model F		9.75***		6.31***		8.58***		11.15***
Model R^2		0.08		0.05		0.10		0.13
Model 2: AGO by Cognitive Ability	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
LGO	0.11	2.13*	0.08	1.55	0.10	1.74	0.04	0.72
AGO	0.03	0.59	-0.00	-0.07	-0.04	-0.70	0.01	0.10
TSSEFF	0.18	3.59***	0.15	3.02**	0.09	1.44	0.09	1.56
Cognitive Ability	0.14	3.00**	0.11	2.27*	0.23	4.30***	0.33	6.34***
AGO*Cog	0.00	1.18	0.00	0.44	-0.00	-1.28	-0.01	-1.27
Model F		9.85***		6.32***		8.36***		11.53***
Model R^2		0.08		0.05		0.09		0.14
Model 3: TSSEFF by Cognitive Ability	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
LGO	0.09	1.95	0.07	1.50	0.10	1.85	0.05	0.81
AGO	0.02	0.51	-0.00	-0.10	-0.03	-0.55	0.01	0.18
TSSEFF	0.18	3.54***	0.15	3.01**	0.09	1.46	0.09	1.49
Cognitive Ability	0.14	2.98**	0.11	2.26*	0.24	4.55***	0.35	6.69***
TSSEFF*Cog	-0.01	-1.15	-0.00	-0.46	0.01	2.30*	0.02	2.67**
Model F		9.84***		6.33***		9.18***		12.82***
Model R^2		0.08		0.05		0.10		0.15

Note. LGO is learning goal orientation, AGO is avoid-performance goal orientation, TSSEFF is task-specific self-efficacy, and Cog is cognitive ability.

* indicates significance at the .05 level.

** indicates significance at the .01 level.

*** indicates significance at the .001 level.

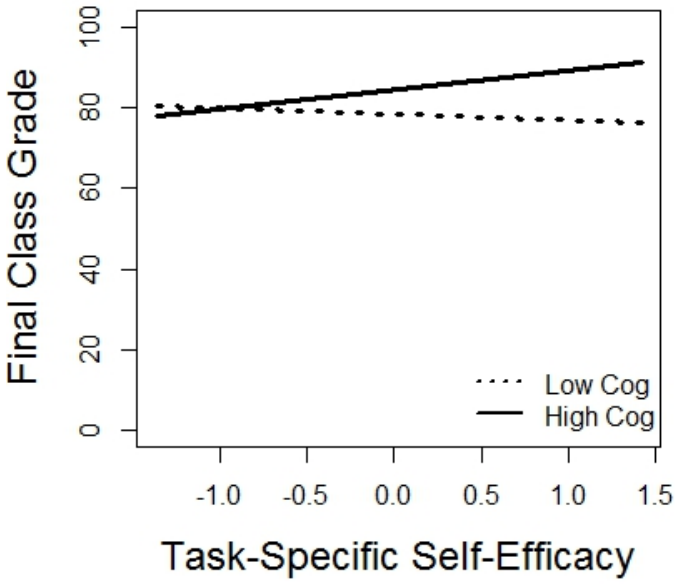

Figure 3. A graph of the effects of task-specific self-efficacy on class grades at high and low levels of cognitive ability. Cog is cognitive ability.

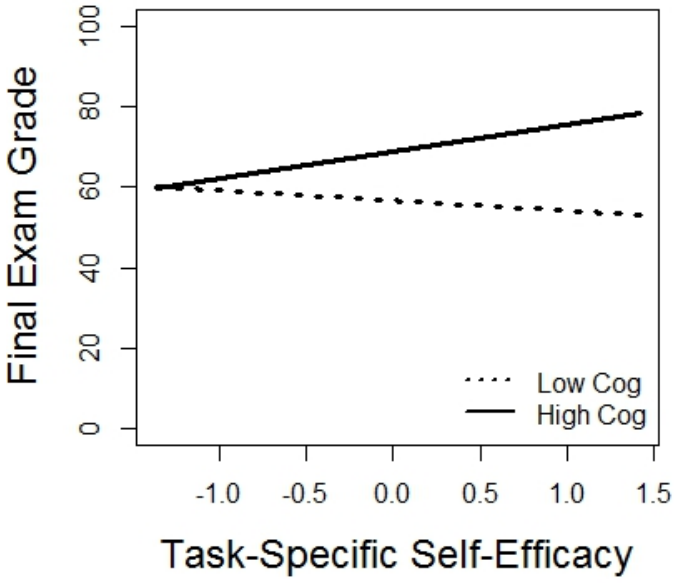

Figure 4. A graph of the effects of task-specific self-efficacy on exam grades at high and low levels of cognitive ability. Cog is cognitive ability.

In Step 2, I added two-way interactions between predictor variables to determine whether any two-way interaction effects existed between learning goal orientation, avoid-performance goal orientation, and task-specific self-efficacy (See Table 12). Results showed a significant interaction effect between learning goal orientation and avoid-performance goal orientation on class grades (β = -0.11, t = -2.01, p < .05) and exam grades (β = -0.11, t = 2.19, p < .05) while accounting for a main effect of cognitive ability and the interaction effect between task-specific self-efficacy and cognitive ability. Learning goal orientation was more strongly positively related to class and exam grades at lower levels of avoid-performance goal orientation (See Figures 5 and 6). After running a regression model with all the control variables, adding in the learning goal orientation and avoid-performance goal orientation interaction effect produced a ΔR^2 of .01 for class grades and .01 for exam grades. Further, results showed a significant interaction effect between avoid-performance goal orientation and task-specific self-efficacy on class grades (β = -0.17, t = -2.26, p < .05) and exam grades (β = -0.18, t = -2.44, p < .05) while accounting for a main effect of cognitive ability and the interaction effect between task-specific self-efficacy and cognitive ability. Task-specific self-efficacy was more positively related to class and exam grades at lower levels of avoid-performance goal orientation (See Figures 7 and 8). After running a regression model with all the control variables, adding in the task-specific self-efficacy and avoid-performance goal orientation interaction effect produced a ΔR^2 of .01 for class grades and .01 for exam grades.

Table 12

Two-Way Interaction Models Between Main Variables

Model 1: LGO by AGO	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
LGO	0.10	1.99*	0.08	1.71	0.10	1.74	0.04	0.65
AGO	0.02	0.46	-0.01	-0.24	-0.01	-0.14	0.04	0.66
TSSEFF	0.18	3.57***	0.16	3.20**	0.07	1.19	0.07	1.24
Cognitive Ability	0.14	3.01**	0.11	2.42*	0.23	4.30***	0.34	6.30***
LGO*AGO	0.02	0.47	0.07	1.72	-0.11	-2.01*	-0.11	-2.19*
TSSEFF*Cog Ability	-0.01	-1.17	-0.00	-0.55	0.02	2.51*	0.02	2.88**
Model F		8.22***		5.79**		8.39***		11.61***
Model R^2		0.08		0.06		0.11		0.16
Model 2: AGO by TSSEFF	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
LGO	0.10	1.93	0.09	1.71	0.07	1.20	0.01	0.15
AGO	0.02	0.49	-0.01	-0.20	-0.02	-0.35	0.02	0.40
TSSEFF	0.18	3.53***	0.15	2.96**	0.10	1.68	0.10	1.69
Cognitive Ability	0.14	2.98**	0.11	2.32*	0.24	4.49***	0.35	6.63***
AGO*TSSEFF	0.01	0.16	0.07	1.09	-0.17	-2.26*	-0.18	-2.44*
TSSEFF*Cog Ability	-0.01	-1.15	-0.00	-0.46	0.02	2.43*	0.02	2.83**
Model F		8.19***		5.47***		8.59***		11.83***
Model R^2		0.08		0.05		0.11		0.16
Model 3: LGO by TSSEFF	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
LGO	0.10	1.96	0.08	1.53	0.10	1.75	0.05	0.84
AGO	0.03	0.56	0.00	0.01	-0.04	-0.75	0.02	0.28
TSSEFF	0.18	3.50***	0.15	2.95**	0.09	1.54	0.09	1.43
Cognitive Ability	0.14	2.97**	0.11	2.24*	0.25	4.61***	0.35	6.63***
LGO*TSSEFF	0.02	0.28	0.03	0.43	-0.07	-0.88	0.04	0.43
TSSEFF*Cog Ability	-0.00	-1.17	-0.00	-0.52	0.01	2.42*	0.01	2.58*
Model F		8.20***		5.30***		7.77***		10.69***
Model R^2		0.08		0.05		0.10		0.15

Note. LGO is learning goal orientation, AGO is avoid-performance goal orientation, TSSEFF is task-specific self-efficacy, and Cog Ability is cognitive ability.
* indicates significance at the .05 level.
** indicates significance at the .01 level.
*** indicates significance at the .001 level.

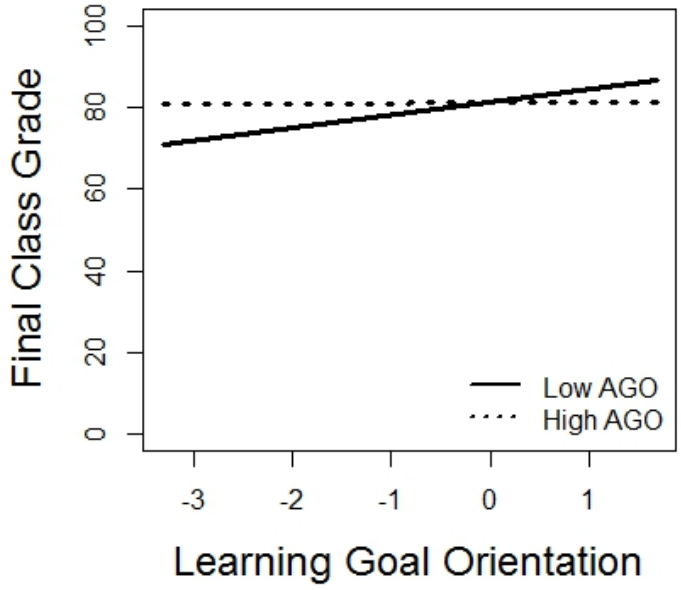

Figure 5. A graph of the effects of learning goal orientation on class grades at high and low levels of avoid-performance goal orientation. AGO is avoid-performance goal orientation.

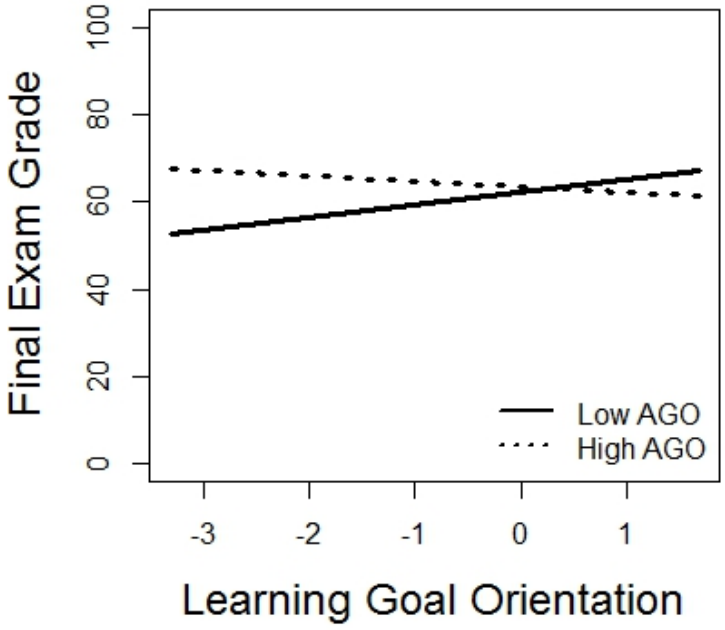

Figure 6. A graph of the effects of learning goal orientation on exam grades at high and low levels of

avoid-performance goal orientation. AGO is avoid-performance goal orientation.

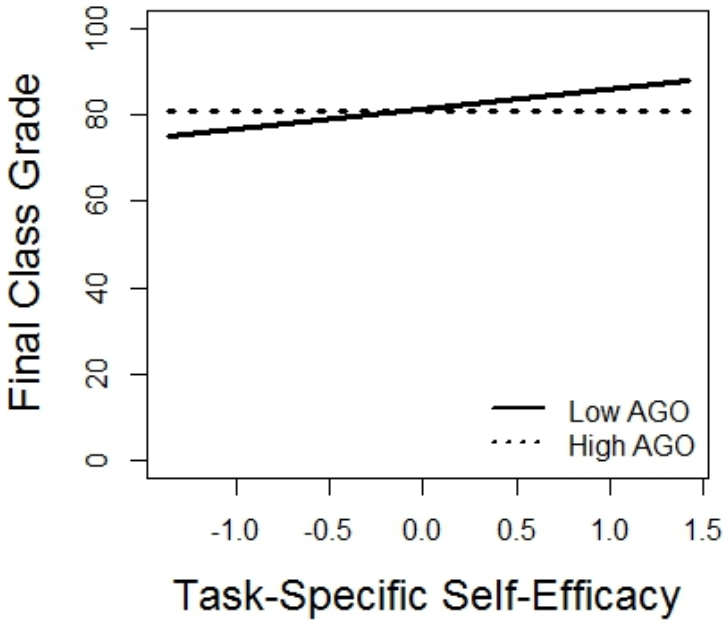

Figure 7. A graph of the effects of task-specific self-efficacy on class grades at high and low levels of avoid-performance goal orientation. AGO is avoid-performance goal-orientation.

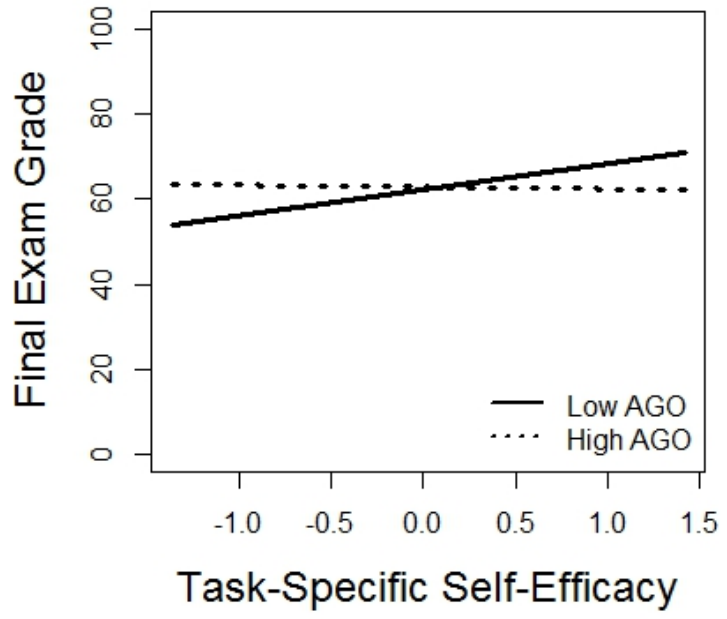

Figure 8. A graph of the effects of task-specific self-efficacy on exam grades at high and low levels of avoid-performance goal orientation. AGO is avoid-performance goal orientation.

Finally, in Step 3 to test Hypotheses 4a and 4b, I entered the three-way interaction between learning goal orientation, avoid-performance goal orientation, and task-specific self-efficacy while accounting for interaction and main effects examined in previous analyses (See Table 13). Results demonstrated no significant three-way interaction effect for class goals (β = -0.00, t = -0.00, p = 1.00), exam goals (β = -0.04, t = -0.52, p = .61), class grades (β = 0.03, t = 0.34, p = .74), or exam grades (β = 0.12, t = 1.63, p = .25). Hypotheses 4a and 4b were unsupported.

Table 13

Three-Way Interaction Model Between Main Variables

Variables	Class Goals		Exam Goals		Class Grades		Exam Grades	
	β	t	β	t	B	t	β	t
LGO	0.10	1.96	0.09	1.81	0.07	1.09	0.02	0.32
AGO	0.03	0.49	0.01	0.11	-0.03	-0.5.	-0.01	-0.10
TSSEFF	0.18	3.48***	0.16	2.99**	0.10	1.61	0.10	1.59
Cognitive Ability	0.14	2.99**	0.12	2.44*	0.24	4.38***	0.33	6.26***
LGO*AGO	0.02	0.45	0.06	1.27	-0.07	-1.19	-0.05	-0.86
LGO*TSSEFF	0.03	0.33	0.05	0.60	-0.13	-1.42	0.00	0.05
AGO*TSSEFF	0.00	0.00	0.04	0.62	-0.11	-1.64	-0.14	-2.10*
TSSEFF*Cog	-0.10	-1.20	-0.06	-0.71	0.27	2.78**	0.29	3.11**
LGO*AGO*TSSEF	-0.00	-0.00	-0.04	-0.52	0.03	0.34	0.12	1.63
Model F	5.46***		3.95***		6.11***		8.37	
Model R^2	0.08		0.05		0.12		0.16	

Note. LGO is learning goal orientation, AGO is avoid-performance goal orientation, TSSEFF (TSSEF) is task-specific self-efficacy, and Cog is cognitive ability.
* indicates significance at the .05 level.
** indicates significance at the .01 level.
*** indicates significance at the .001 level.

Discussion

Overview

The purpose of the current study was to examine the interactive effects of goal orientations and self-efficacy on self-set goal levels and performance in an academic setting. Consistent with past research (e.g., Judge et al., 2007; Stajkovic & Luthans, 1998; VandeWalle et al., 1999; Zimmerman et al., 1992), I found that learning goal orientation and self-efficacy predicted positively self-set goal levels and performance. Also, although prior research has reported a negative main effect of avoid-performance goal orientation (e.g., Payne et al., 2007), I failed to replicate this effect. However, my results indicated that learning goal orientation and self-efficacy effects on outcomes were moderated by avoid-performance goal orientation. These results contributed to the literature by suggesting that in some contexts learning goal orientation and self-efficacy might have greater beneficial effects when avoid-performance goal orientation is lower.

Hypothesis Testing

In support of Hypothesis 1 and in agreement with past research (e.g., VandeWalle, Brown, Cron, & Slocum, 1999), I found learning goal orientation predicted positively the difficulty of self-set grade goals for class and final exams. Further, learning goal orientation predicted how well students performed in their classes but not on their final exam, after accounting for the effects of cognitive ability. However, avoid-performance goal orientation had no significant main effect on self-set goal levels or on class or exam grade. This finding failed to support Hypothesis 2 and past research (e.g., Payne et al., 2007). In support of Hypothesis 3, results demonstrated that task-specific self-efficacy predicted positively the difficulty of self-set class and exam goals as well as

class and final exam grades. This result supported Hypothesis 3 and past research (e.g., Judge et al., 2007; Stajkovic & Luthans, 1998; Zimmerman et al., 1992). For Hypothesis 4, I predicted that at lower levels of self-efficacy, learning goal orientation would be more positively related to goals and grades at lower levels of avoid-performance goal orientation than at high levels of avoid-performance goal orientation. Results demonstrated no three-way interaction effect and failed to support this hypothesis. However, analyses involved in testing Hypothesis 4 revealed three significant two-way interactions involving learning goal orientation, avoid-performance goal orientation, and task-specific self-efficacy, which I discuss below.

Theoretical and Practical Implications

The results raised four themes that have potential theoretical implications. First, in examining and accounting for the effects of cognitive ability on self-set goal levels and academic performance, the results demonstrated a significant interaction effect of task-specific self-efficacy and cognitive ability on final class and exam grades such that the relationship between self-efficacy and grades was stronger and more positive at higher levels of cognitive ability than at lower levels of cognitive ability. Research has found that higher self-efficacy leads to better performance (e.g., Judge et al., 2007) and that cognitive ability leads to better performance (e.g., Schmidt, Hunter, & Outerbridge, 1986). However, my results suggested that self-efficacy is a better predictor of performance for higher cognitive ability individuals than for those with lower levels of cognitive ability (See Figures 2 and 3). An implication of this is that self-efficacy might be a more useful predictor of performance for individuals with higher cognitive ability and less useful for individuals with lower cognitive ability.

A second point suggested by my results is that the relationship between motivational outcomes and performance outcomes might be more complicated than originally expected. That is, results revealed significant interaction effects involving goal orientation and self-efficacy only on performance and not on self-set goal levels. According to the literature, challenging, specific goals should lead to better performance (e.g., Locke & Latham, 1990). Further, researchers have observed that learning goals should lead to differences in self-set goal levels (e.g., Dweck, 1986; Nichols, 1984). Moreover, researchers have reported self-efficacy effects on self-set goal levels (e.g., Zimmerman et al., 1992). Thus, it is reasonable to expect that the relationships between goal orientations or self-efficacy and performance are mediated by the difficulty of self-selected goals. However, self-set goal level did not act as a mediator in the current study. One possibility is that the class grade and final exam grade goals did not capture the goals that people actually were focused on in relation to performance in the class. For example, goal orientation effects might be mediated through other class-related goals, such as self-set goals for studying, participating in class, or quizzes. Alternatively, it could be that individuals regularly changed their class and exam goals throughout the semester as the course progressed and as they learned more about the class. Research collecting self-set goal levels at different times or for different types of goals might reveal stronger relationships.

A third point revealed by the analyses is that avoid-performance goal orientation effects might be more complex than originally discussed in research (e.g., Payne et al., 2007). That is, the effects of avoid-performance goal orientation on performance were observed only in the presence of learning goal orientation or task-specific self-efficacy

(See Figures 4 through 7). Avoid-performance goal orientation moderated the relationships between learning goal orientation and performance and between self-efficacy and performance but showed no significant main effects on performance or self-set goal levels. This suggests that avoid-performance goal orientation should be examined more carefully in future research and perhaps in the context of other predictors when investigating goal orientation effects in an academic context.

A fourth point suggested by my results is that learning goal orientation and task-specific self-efficacy had similar relationships with academic performance in terms of their interactions with avoid-performance goal orientation. Both learning goal orientation and self-efficacy showed stronger and more positive relationships with performance at low levels of avoid-performance goal orientation and little relationship with performance at high levels of avoid-performance goal orientation. It might be the case that learning goal orientation and self-efficacy are tapping into similar constructs. Indeed, previous research found that learning goal orientation has conceptual overlap with several factors such as need for achievement and intrinsic motivation in that they all address the issue of competence (e.g., Heintz & Steele-Johnson, 2004). My research seems to support this idea in that learning goal orientation and self-efficacy had similar effects on performance.

Although these themes address theoretical issues concerning goal orientations, self-set goal levels, and self-efficacy, the results of the current study also had practical implications. As a preliminary comment, I note that research has found similar effects for goal orientation dispositions and goal orientation states, which can be influenced (e.g., Button et al., 1996). Hence, one major implication is for the implementation of training programs or interventions with the goal of improving grades or performance. Training

that focuses on improving learning goal orientation or self-efficacy first should assess and consider the avoid-performance goal orientation of individuals. A learning goal orientation cue intended to focus an individual on learning might be less effective if the individual is focused also on avoiding negative judgments of others. Thus, trainers or teachers might consider intervening to lower avoid-performance goal orientation levels before attempting to raise the trainees' focus on learning or competence levels. For example, a trainer or educator might manipulate goal orientations using task instructions, as has been done in past research (e.g., Nicholls, 1984; Steele-Johnson et al., 2000). A trainer might first deemphasize the importance of achievement in the training process and second focus on developing skills and capabilities through practice .

Limitations and Future Research

A limitation of the current study is that most of the data collected was self-report. Thus, common method bias could have had an influence on results. However, researchers have shown that common method bias can deflate or attenuate interaction effects, but not cause them (Evans, 1985; Siemsen, Roth, & Oliveira, 2010). Thus, it might be that I have underestimated the interaction effects found in the current study. Further, the study failed to capture similar interaction effects on goal levels and grades, which might be because the research was conducted halfway through the semester or because of the types of goals for which goal levels were assessed. Another limitation is that I identified fewer instances of insufficient effort responding than expected given the size of the sample. In the current study, I did not use any commonly used measures to identify insufficient effort responding, and this could influence my results, possibly making it more difficult to correctly identify relationships and effects. A final limitation

is that I examined interaction effects between variables that are correlated. However, I group mean centered in order to minimize multicollinearity in the analyses.

The current research raises multiple possibilities for future research. First, capturing self-set goal levels for other academic-related goals might lead to a better understanding of how motivation variables such as goal orientations and self-efficacy interact to influence academic performance. Further, research using goal orientation cues rather than measuring goal orientation dispositions would provide further evidence that would inform both theory and practice. For example, research examining the effects of learning goal orientation and self-efficacy on performance and self-set goal levels after lowering avoid-performance tendencies of individuals should prove beneficial in training. Finally, future research should consider evaluating these effects in work-specific contexts to obtain a better understanding of the generalizability of these results.

Conclusions

The current research obtained both expected and unexpected results for the interaction effects of goal orientations and self-efficacy on goal levels and performance. Results have important implications for research and the application of goal orientation concepts. My study adds knowledge to the literature by providing evidence that learning goal orientation is a stronger predictor of academic performance in the absence of high avoid-performance goal orientation. Also, my study suggests that avoid-performance goal orientation should be examined in the context of other variables such as learning goal orientation and self-efficacy. Further, learning goal orientation and self-efficacy demonstrated a similar pattern of effects in the context of avoid-performance goal orientation, providing evidence of the conceptual overlap between learning goal

orientation and self-efficacy, i.e., a desire to learn and belief in one's competence. Moreover, results revealed differential effects on self-set goal levels than on performance. Overall, these results add to our understanding of how different motivational influences can have joint effects in determining the goals that we set and in how we perform. Further, the current research has practical implications for training. For example, to be more effective, programs focused on learning goal cues or self-efficacy might need to assess and reduce avoidance goal cues in individuals. This research betters our understanding of the intricate motivations to perform and presents options for training to improve the learning and competence of students.

References

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology, 80*(3), 260-267.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social-cognitive view.* Englewood Cliffs, NJ: Prentice-Hall.

Bowers, T. L., &Pantle, M. L. (1998). Shipley Institute for Living Scale and Kaufman Brief Intelligence Test as screening instruments for intelligence. *Psychological Assessment,5*(2), 187-195.

Braithwaite, V. A., & Law, H. G. (1985). Structure of human values: Testing the adequacy of the Rokeach Value Survey. *Journal of Personality and Social Psychology, 49*, 250-263.

Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes, 61*(1), 26-48.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods, 4*(1), 62-83.

Dweck, C. S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology, 31,* 674-685.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*, 1040-1048.

Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist, 34*(3), 169-189.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*(1), 218-232.

Evans, M. G. (1985). A Monte Carlo study of the effects of correlated method variance in moderated multiple regression analysis. *Organizational Behavior and Human Decision Processes, 36,* 305-323.

Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-sconsciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology, 43*(4), 522-527.

Heintz, P., Steele-Johnson, D. (2004). Clarifying the conceptual definitions of goal orientation dimensions: Competence, control, and evaluation. *Organizational Analysis, 12*(1), 5-19.

Hollenbeck, J. R., Klein, H. J., O'Leary, A. M., & Wright, P. M. (1989). Investigation of the construct validity of a self-report measure of goal commitment. *Journal of Applied Psychology, 74*(6), 951-956.

International Personality Item Pool: A Scientific Collaboratory for the Development of Advanced Measures of Personality Traits and Other Individual Differences (http://ipip.ori.org/). Internet Web Site.

Jackson, D. N. (1989). *Personality research form manual* (3rd ed.) Port Huron, MI: Sigma Asessment Systems, Inc.

Judge, T. A., Jackson, C. L., Shaw, J. C., Scott, B. A., & Rich, B. L. (2007). Self-efficacy and work-related performance: The integral role of individual differences. *Journal of Applied Psychology, 92*(1), 107-127.

Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance, 3*, 157-189.

Locke, E. A., & Latham, G. P. (1990). A theory of goal setting and task performance. Eaglewood Cliffs, NJ: Prentice-Hall.

Locke, E. A., Latham, G. P, & Erez, M. (1988). The determinants of goal commitment. *Academy of Management, 13*(1), 23-39.

Locke, E. A., & Latham, G. P. (2002). New directions in goal-setting theory. *Current Directions in Psychological Science, 15*(5), 265-268.

McAuley, E., Wraith, S., & Duncan, T. E. (1991). Self-efficacy, perceptions of success, and intrinsic motivation for exercise. *Journal of Applied Social Psychology, 21*(2), 139-155.

Nicholls, J.G. (1975). Causal attributions and other achievement-related cognitions: Effects of task outcome, attainment value, and sex. *Journal of Personality and Social Psychology, 31*, 379-389.

Nicholls, J.G. (1976). When a scale measures more than its name denotes: The case of the Test Anxiety Scale for Children. *Journal of Consulting and Clinical Psychology, 44*, 976-985.

Nicholls, J.G. (1978). The development of the concepts of effort and ability, perception of own attainment, and the understanding that tasks require more ability. *Child Development, 49*, 800-814.

Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance, *Psychological Review, 91* (3), 328-346.

Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology, 92*, 128-150.

Riggs, M. L., Warka, J., Babasa, B., Betancourt, R., & Hooker, S. (1994). Development and validation of self-efficacy and outcome expectancy scales for job-related applicants. *Educational and Psychological Measurement, 54*(3), 793-802.

Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology, 43,* 450-461.

Scheier, M. F., & Carver, C. S. (1985). The self-consciousness scale: A revised version for use with general populations. *Journal of Applied Social Psychology, 15*(8), 687-699.

Schmidt, F. L., Hunter, J. E., & Outerbridge, A. N. (1986). Impact of job experience and ability on job knowledge, work sample performance, and supervisory ratings of job performance. *Journal of Applied Psychology, 71*(3), 432-439.

Shipley, B. (1940). *Shipley Institute of Living scale manual.* Hartford, CT: Neuropsychiatric Press.

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods, 13*, 456-476.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124*(2). 240-261.

Steele-Johnson, D., Beauregard, R. S., Hoover, P. B., & Schmidt, A. M. (2000). Goal orientation and task demand effects on motivation, affect, and performance. *Journal of Applied Psychology, 85*(5), 724-738.

Stevens, C. K., & Gist, M. E. (1997). Effects of self-efficacy and goal-orientation training on negotiation skill maintenance: What are the mechanisms? *Personnel Psychology, 50*(4), 955-978.

VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Education and Psychological Measurement, 8*, 995-1015.

VandeWalle, D., Brown, S. P., Cron, W. L., & Slocum Jr., J. W. (1999). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology, 84*(2), 249-259.

VandeWalle, D., Cron, W. L., & Slocum Jr., J. W. (2001). The role of goal orientation following performance feedback. *Journal of Applied Psychology, 86*(4), 629-640.

Yeo, G., Loft, S., Xiao, T., & Kiewitz, C. (2009). Goal orientations and performance: Differential relationships across levels of analysis and as a function of task demands. *Journal of Applied Psychology, 94*(3), 710-726.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal, 29*(3), 663-676.

Appendix A

Personal Efficacy Beliefs Scale

INSTRUCTIONS: Below are statements reflecting people' ability to do tasks required by their classes. Use the following scale to indicate how accurately each statement describes **your ability** to perform the class-related tasks mentioned below.

1	2	3	4	5
Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

1. I have confidence in my ability to do well in my introductory psychology (Psyc 1010) class.
2. There are some tasks required by my Psyc 1010 class that I cannot do well.*
3. When my grades are poor, it is due to my lack of ability.
4. I doubt my ability to do well in my Psyc 1010 class.*
5. I have all the skills needed to perform well in my Psyc 1010 class.
6. Most people in my class get better grades than I do.*
7. I am a great student.
8. My future in school is limited because of my lack of skills.*
9. I am very proud of my skills and abilities in school.
10. I feel threatened when others watch me take a test or do homework.*

**Reverse coded*

Appendix B

Goal Orientation

INSTRUCTIONS: Below are statements describing people's classroom behaviors. Please use the following scale to indicate how accurate each statement reflects **your own** behavioral tendencies.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. I am willing to select a challenging class assignment that I can learn a lot from.
2. I often look for opportunities to develop new skills and knowledge.
3. I enjoy challenging and difficult tasks at class where I'll learn new skills.
4. For me, development of my academic ability is important enough to take risks.
5. I prefer to work in situations that require a high level of ability and talent.
6. I'm concerned with showing that I can perform better than my classmates.
7. I try to figure out what it takes to prove my ability to others in class.
8. I enjoy it when others in class are aware of how well I am doing.
9. I prefer to work on projects where I can prove my ability to others.
10. I would avoid taking on a new task if there was a chance I would appear rather incompetent to others.
11. Avoiding a show of low ability is more important to me than learning a new skill.
12. I'm concerned about taking on a task in class if my performance would reveal that I had low ability.
13. I prefer to avoid situations in class where I might perform poorly.

Note: *Learning goal orientation items are 1-5, prove-performance goal orientation items are 6-9, and avoid-performance goal orientation items are 10-13.*

Appendix C

Goal Choice

INSTRUCTIONS: Below you are to choose a grade **goal** for your final exam in PSYC 1010 and for your final grade in the course. Indicate your grade goal on a 0-100 percentage scale.

Goal for final exam score (% of points on exam): _____

Goal for total points in class (% of total points): _____

Appendix D

Goal Commitment

INSTRUCTIONS: Below are statements describing people's feelings about goals. Please use the rating scale below to describe how accurately each statement describes **your feelings** about the grade goals you have just chosen.

1	2	3	4	5
Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

1. It's hard to take this goal seriously.
2. It's unrealistic for me to expect to reach this goal.
3. It is quite likely that this goal may need to be revised, depending on how things go.
4. Quite frankly, I don't care if I achieve this goal or not.

Appendix E

Demographics

1. What is your current age?

   _____ years of age

2. What is your gender?

   1. Male 2. Female

3. What is your class rank?

   1. Freshman 2. Sophomore 3. Junior 4. Senior 5. Other

4. What is your current major?

   1. Business 2. Communications 3. Education 4. Engineering
   5. Mathematics 6. Psychology 7. Sociology 8. Other

5. What is your GPA? (Indicate "No GPA" if you do not have a GPA yet.)

   _____ GPA _____ No GPA

6. What is your race?

   1. White/Caucasian 2. Black/African American 3. Asian/Pacific
   4. Hispanic 5. Native American 6. Other

Appendix F

New General Self-Efficacy Scale

INSTRUCTIONS: Below are statements about people's beliefs that in general they can achieve tasks and goals. Use the following scale to indicate how accurate each item reflects **your own** beliefs about your ability to achieve various tasks and goals.

1	2	3	4	5
Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

1. I will be able to achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am certain that I will accomplish them.
3. In general, I think that I can obtain outcomes that are important to me.
4. I believe I can succeed at most any endeavor to which I set my mind.
5. I will be able to successfully overcome many challenges.
6. I am confident that I can perform effectively on many different tasks.
7. Compared to other people, I can do most tasks very well.
8. Even when things are tough, I can perform quite well.

Appendix G

Self-Consciousness

INSTRUCTIONS: Below are statements about people's beliefs of their own self-consciousness. Use the following scale to indicate the extent to which each statement is **like you** or **not like you**.

0	1	2	3
Not at all like me	A little like me	Somewhat like me	A lot like me

Private Self-Consciousness

1. I'm always trying to figure myself out.
2. I think about myself a lot.
3. I often daydream about myself.
4. I never take a hard look at myself.*
5. I generally pay attention to my inner feelings.
6. I'm constantly thinking about my reasons for doing things.
7. I sometimes step back (in my mind) in order to examine myself from a distance.
8. I'm quick to notice changes in my mood.
9. I know the way my mind works when I work through a problem.
10. I'm concerned about my style of doing things.
11. I care a lot about how I present myself to others.
12. I'm self-conscious about the way I look.
13. I usually worry about making a good impression.
14. Before I leave my house, I check how I look.
15. I'm concerned about what other people think of me.
16. I'm usually aware of my appearance.
17. It takes me time to get over my shyness in new situations.
18. It's hard for me to work when someone is watching me.
19. I get embarrassed very easily.
20. It's easy for me to talk to strangers.*
21. I feel nervous when I speak in front of a group.
22. Large groups make me nervous.

Note: *Private self-consciousness items are 1-9, public self-consciousness items are 10-16, and social anxiety items are 17-22.*
**Reverse coded*

Appendix H

Conscientiousness

INSTRUCTIONS: Below are statements about people's personalities. Use the following scale to indicate how accurately each statement reflects **your own** personality.

1	2	3	4	5
Very Inaccurate	Moderately Inaccurate	Neutral	Moderately Accurate	Very Accurate

1. I am always prepared.
2. I pay attention to details.
3. I get chores done right away.
4. I carry out my plans.
5. I make plans and stick to them.
6. I waste my time. *
7. I find it difficult to get down to work. *
8. I do just enough work to get by. *
9. I don't see things through. *
10. I shirk my duties. *

**Reverse coded*

Appendix I

Need for Achievement

INSTRUCTIONS: Below are statements about people's personalities. Please mark *true* or *false* to indicate whether each statement describes **you** or whether it does not.

1. I enjoy doing things which challenge me.
2. Self-improvement means nothing to me unless it leads to immediate success.*
3. I get disgusted with myself when I have not learned something properly.
4. I work because I have to, and for that reason only.*
5. I will keep working on a problem after others have given up.
6. I try to work just hard enough to get by.*
7. I often set goals that are very difficult to reach.
8. I would rather do an easy job than one involving obstacles which must be overcome.*
9. My goal is to do at least a little bit more than anyone else has done before.
10. I really don't enjoy hard work.*
11. I prefer to be paid on the basis of how much work I have done rather than on how many hours I have worked.
12. I have rarely done extra studying in connection with my classes.*
13. People have always said that I am a hard worker.
14. When people are not going to see what I do, I often do less than my very best.*
15. I don't mind working while other people are having fun.
16. It doesn't really matter to me whether I become one of the best in my field.*
17. Sometimes people say I neglect other important aspects of my life because I work so hard.
18. I am sure people think that I don't have a great deal of drive.*
19. I enjoy work more than play.
20. It is unrealistic for me to insist on becoming the best in my field of work all of the time.*

**Reverse coded*

Appendix J

Intrinsic Motivation

INSTRUCTIONS: Below are statements about people's motivations. Use the following scale to indicate how accurately each statement reflects **your own** motivation.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

1. I enjoy participating in this task very much.
2. I think I am pretty good at this task.
3. I put a lot of effort into this task.
4. I do not feel nervous at all while participating on this task.
5. This task is fun to do.
6. I think I do pretty well on this task, compared to other students.
7. I haven't tried very hard on this task.*
8. I feel very tense while participating on this task.*
9. I haven't really had a choice about participating on this task.*
10. I think this task is boring.*
11. I try very hard on this task.
12. I am very relaxed in performing this task.
13. I feel like I have to participate on this task.*
14. This task does not hold my attention at all.*
15. I would describe this task as very interesting.
16. I am pretty skilled at performing this task.
17. I haven't put much energy into this task.*
18. I feel pressured during participation in this task.
19. I think this task is quite enjoyable.
20. While participating on this task, I think about how much I enjoy it.
21. I participate in this task because I have no other choice.*

Note: *Interest/enjoyment items are 1, 9, 10, 13-15, 19-21; competence items are 2, 6, 16; effort/importance items are 3, 7, 11, 17; pressure/tension items are 4, 8, 12, 18; and intrinsic motivation items are all items together.*
**Reverse coded*

Appendix K

Class Perceptions

INSTRUCTIONS: Below are statements about people's perceptions of complexity and difficulty related to a class. Use the following scale to indicate how accurately to what extent **you** share these perceptions about your introductory psychology (PSY 1010) class.

1	2	3	4	5	6	7
Not at all			Neutral			To a great extent

1. How difficult is performing in this introductory psychology course?
2. How satisfied were you with your overall performance in the class?
3. How challenging is this class?
6. To what extent can you do work for this class and also think about other things at the same time?
8. How satisfied will you be if you achieve the same performance level in the next class?
9. When performing in this class how often did you feel discouraged about how you were doing?
10. To what extent do you think you can increase your performance by trying harder?
11. How confident are you that if you increase your effort you will improve your performance?
12. How complex is this class?

Appendix L

Goal Values

INSTRUCTIONS: Below are goals that various people have used as guiding principles in their lives. Use the following scale to indicate the extent to which **you** accept or reject each of these goals as a principle for you to live by. **Before you start**, quickly take note of the responses on the scale.

1	2	3	4	5	6	7
I reject this	I am inclined to reject this	I neither reject nor accept this	I am inclined to accept this	I accept this as important	I accept this as very important	I accept this as of the greatest importance

1. Recognition by the community (having high standing in the community)
2. Economic prosperity (being financially well off)
3. Authority (having power to influence others and control decisions)
4. Mature love (having a relationship of deep and lasting affection)
5. True friendship (having genuine and close friends)
6. Personal support (knowing that there is someone to take care of you
7. Security for loved ones (taking care of loved ones)
8. Acceptance by others (feeling that you belong)
9. An active social life (mixing with other people)
10. An exciting life (a life full of new experience or adventures)

Note: *Social standing items are 1-3, secure and satisfying interpersonal relationships items are 4-8, and social stimulation items are 9-10.*

Appendix M

Mode Values

INSTRUCTIONS: Below are listed different ways of behaving. Using the following scale, indicate the extent to which **you** accept or reject each way of behaving as a guiding principle in your life. **Before you start**, quickly take note of the responses on the scale.

1	2	3	4	5	6	7
I reject this	I am inclined to reject this	I neither reject nor accept this	I am inclined to accept this	I accept this as important	I accept this as very important	I accept this as of the greatest importance

1. Helpful (always ready to assist others)
2. Forgiving (willing to pardon others)
3. Giving others a fair go (giving others a chance)
4. Tactful (being able to deal with touchy situations without offending others)
5. Considerate (being thoughtful of other people's feelings)
6. Cooperative (being able to work in harmony with others)
7. Loving (showing genuine affection)
8. Trusting (having faith in others)
9. Grateful (being appreciative)
10. Understanding (able to share another's feelings0
11. Friendly (being neighborly)
12. Generous (sharing what you have with others)
13. Bright (being quick thinking)
14. Adaptable (adjusting to change easily)
15. Competent (being capable)
16. Resourceful (being clever at finding ways to achieve a goal)
17. Self-disciplined (being self-controlled)
18. Efficient (always using the best method to get the best results)
19. Realistic (seeing each situation as it really is)
20. Knowledgeable (being well informed)
21. Persevering (not giving up in spite of difficulties)
22. Progressive (being prepared to accept and support new things)
23. Conscientious (being hardworking)
24. Logical (being rational)
25. Showing foresight (thinking and see ahead)
26. Ambitious (being eager to do well)
27. Competitive (always trying to do better than others)

Note: *Positive orientation to others items are 1-12, competence and effectiveness items are 13-25, and getting ahead items are 26-27.*

Appendix N

Cover Letter to Participate in Research

You are invited to participate in the "Goal Orientation" research study. The purpose of this research study is to examine the factors that influence the difficulty of goals that people set.

During the study you will be asked to complete several online questionnaires. This study consists of four 30-minute sections. You will receive 4 extra credit points for completing all four sections. You will be asked questions both about yourself and about your PSY 1010 class. Additionally, you will be asked to complete a short biographical survey that will be used for categorical purposes only. After completing each section you will have the option of taking a 5-minute break before continuing.

There is minimal risk and discomfort anticipated as part of or as a result of this research study. The primary risk is fatigue resulting from responding to the questionnaires. Any information about you obtained from this study will be kept strictly confidential and you will not be identified in any report or publication.

Clicking the "I Agree" button below and continuing with the questionnaires implies your consent to participate. You are free to refuse to participate in this study or to withdraw at any time. Your decision to participate or to not participate will not adversely affect your standing at this institution or cause a loss of benefits to which you might otherwise be entitled. There is no penalty of any kind for either non-participation or withdrawal at any time.

A summary of the results of this study may be requested by contacting the researchers listed below by June 2014. The summary will show only aggregate (combined) data. No

individual results will be available. If you have questions or concerns about this study, you can contact the researcher Truman Gore at gore.20@wright.edu or Dr. Debra Steele-Johnson at debra.steele-johnson@wright.edu. If you have general questions about giving consent or your rights as a research participant in this research study, you can call the Wright State University Institutional Review Board at 937-775-4462.

Please indicate your agreement to participate in this study. If you choose not to participate you may close your browser now.

☐ **I agree to participate in this study.**

Appendix O

Waiver Form

We would like your permission to obtain information on your final exam and course scores from your Psyc 1010 instructor. Only the researchers will have access to this information. We will keep this information confidential. We will use your name only to access your score information. We will not include your name in our data files. You are not required to give the researcher access to your Psyc 1010 score information. You may refuse without negatively affecting your status with Wright State University, with the researchers, or your standing in this study. There is no penalty of any kind for refusing this request.

By typing my name in the box below, I give the experimenters, Truman Gore and/or Debra Steele-Johnson, permission to access my Psyc 1010 scores and take the information described above from that report for their study. I understand that typing my name in the box is the same as my signature.

Name: _____

Appendix P

Debriefing

THANK YOU FOR YOUR PARTICIPATION

The experiment you just completed examines how people's goal orientations and self-efficacy influence the difficulty of the goals that they set for their class.

Prior research examines how the factors measured in the study influence self-set goal difficulty by themselves, but we are interested in how they interact as a whole to influence the difficulty of the goals that people set.

With data from you and other individuals, we are discovering more about how these factors influence self-set goal level and subsequent performance.

Please do not discuss these surveys with anyone else because it is important that future participants know nothing about the experiment before they participate in the same experiment.

The data you provided today is important to us, and we appreciate your help. If you have any questions or comments about today's experiment, please talk to the researcher, Truman Gore at gore.20@wright.edu or contact Dr. Debra Steele-Johnson at debra.steele-johnson@wright.edu. Thank you for your time and cooperation.